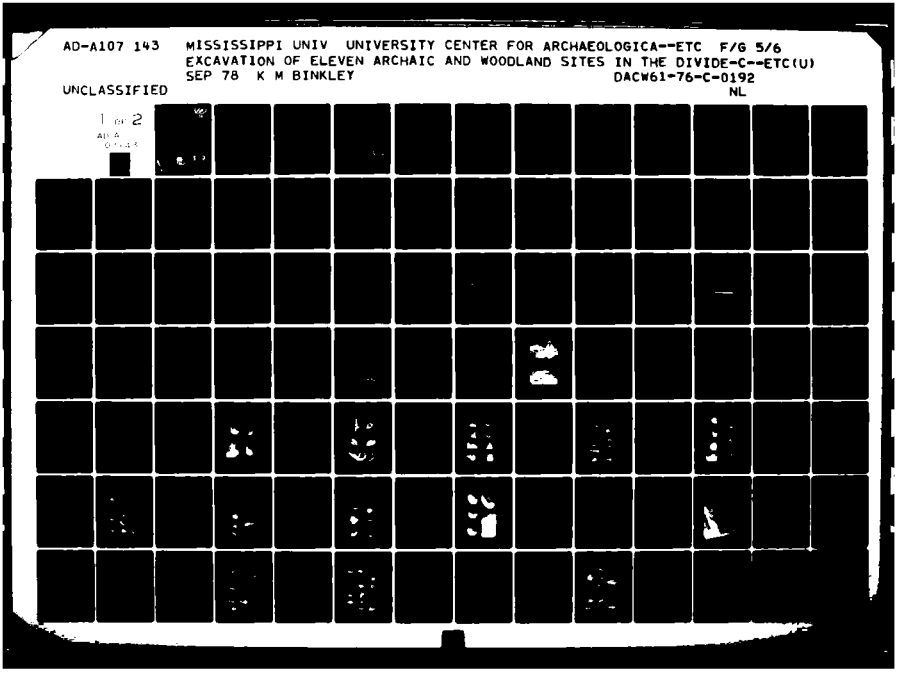
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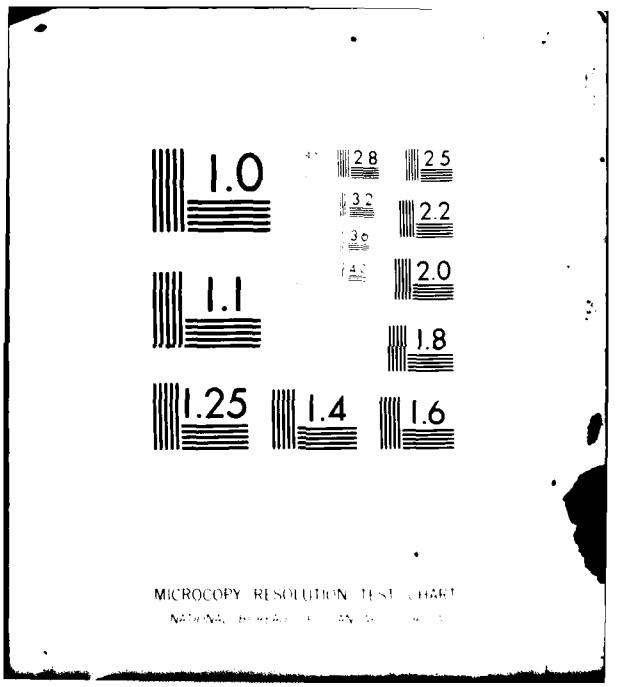
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Kenneth H. Binkley, Research Assistant

A Final report in Fulfillment of Contract Number DACW-62-75-C-0192 for the U.S. Army Corps of Engineers, [illegible] District.

Department of Sociology and Anthropology
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University, Mississippi 38677
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ABSTRACT

Eleven aboriginal sites were excavated to mitigate the data loss from the effects of construction in the Divide-Cut Section of the Tennessee-Tombigbee Waterway. Site descriptions, field methods employed and descriptions of material recovered are presented. Two contrasting sets of sites based upon two physiographic variables are discussed. Assemblage-level comparisons are made between sites lying north or south of Tennessee Valley Divide, and between sites located on bottoms or terraces. Results of these comparisons suggest that sites located north and south of the Divide are not significantly different and sites located on terraces are oriented more toward lithic tool production than are bottom sites. Temporal utilization, based upon projectile point typology, is shown for the ten sites which yielded projectile points.

FOREWORD

The project reported here was completed in accordance with a mitigation plan which ultimately proved to be inappropriate for the specific sites which were selected for excavation. When this contract was originally negotiated one set of sites was scheduled for excavation. Subsequent difficulties prevented their excavation and other sites were substituted with no renegotiation of research strategies or considerations being given to the total effort of ameliorating the data loss situation. These and related events should not be construed as a criticism of the Nashville District, Corps of Engineers staff archaeologist, who required that the action called for in the mitigation plan be carried out. Indeed, it is only from the vantage of retrospection that the mitigation plan appears inappropriate. The plan called for mechanical removal of cultural layers disturbed by agricultural practices for indiscriminate plunder to be followed by hand excavation of underlying features. At the inception of the project, the fact that no features existed at the eleven sites selected for excavation could not have been suggested much less predicted without benefit of an intensive subsurface testing program. In fact, using the methods dictated by the mitigation plan, one site in the area which was excavated previously had yielded subsurface features (O'Hear and Conn 1977).

The mitigation plan had been conceived and prepared for the excavation of sites whose horizontal extent was limited. The sites which were ultimately selected for excavation may best be characterized as a thin scatter of cultural debris, which, in several cases, was distributed over several acres. To satisfy the terms of the mitigation plans as well as the dictates of the Agency archaeologist, two operational approaches were deemed appropriate: (1) mechanically remove the plow zone of all of the selected sites, mark the features, and hire a crew of appropriate size to excavate them; or (2) hire a crew, conduct an extensive testing program at each site to locate the area where subsurface features would most likely be encountered, mechanically remove the disturbed overburden from that area, and excavate any extent features.

The second option was exercised, with one site containing apparently undisturbed deposits but no features. While a statement of findings for the one site and a statement of negative findings for the remaining ten sites would have sufficed for a perfunctory final report, the artifacts recovered during the extensive testing program provided data from each site which appeared to be worthy of analysis.

Unfortunately, the data base established as a result of the testing program is not robust. This came as no surprise because site testing was employed as a localization procedure rather than a method of random or systematic massive data collection. As a consequence, the contrasts observed in the final statistical analysis are merely suggestive and most certainly are not to be considered conclusive. The patterns which do emerge, however, offer a tentative hypothetical base which may be tested by future archaeological investigations in the Divide-Cut Section of the Waterway.

Robert M. Thorne, Principal Investigator

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CHAPTER 1

INTRODUCTION

At the time the Nashville District, U.S. Army Corps of Engineers prepared the Scope of Services for the excavations reported herein, nine sites were scheduled for excavation. All were located north of the Tennessee Valley Divide in Tishomingo County, and included three terrace sites and six bottom sites which could be developed into optimal contrast sets. While the primary functional goal of the excavation of these sites was to have been satisfaction of the requirements imposed on the Corps of Engineers by the Memorandum of Agreement executed between that agency and the Advisory Council, it was anticipated that viable archaeological data would be retrieved and numerous questions answered: a chronological model might be developed for the lower portion of the Yellow Creek drainage and differences in aboriginal utilization of the natural environment could be compared.

Such was not to be, however. The original contract required that the Corps of Engineers provide ingress-egress rights to all sites. After the contractual agreement between the University of Mississippi and the Corps of Engineers was executed and a field headquarters established, we (the University of Mississippi) were notified that the six bottom sites were on privately-held land and that access to them could not be provided lest sensitive land purchasing negotiations be jeopardized.

As a consequence, six sites north of the Divide were deleted from the original Scope of Services (22Ts722, 728, 729, 791, 793, and 795) and four terrace sites (22Ts577, 734, 735, and 738) and one bottom site (22Ts747) placed in their stead. Another terrace site, 22Ts777, which lies south of the Divide, was added to the substitute package of sites to be excavated. Before excavations began, the staff archaeologist for the Nashville District requested that the contract be further ammended and that two additional bottom sites south of the Divide be excavated. Construction expediencies demanded that excavation of these sites take precedence over the original set of nine. The ammendment was approved and sites 22Ts769 and 22Ts770 were added to the list to be excavated.

The aggregate of circumstances surrounding the selection of sites to be excavated produced a sample which was not optimal. Ideally, the sample of sites would have consisted of a number of terrace sites and a number of bottom sites, evenly distributed on either side of the Tennessee Valley Divide. Had the sites been so distributed, bottom sites south of the Divide could have been compared to bottom sites north of the Divide. Similarly, terrace sites might have been compared to demonstrate the effect of the Divide. Further, a bottom site vs terrace site comparison might have been made on either side of the Divide. However, the peculiar selection of sites permitted excavation of only one bottom site north of the Divide and only one terrace site south of the Divide. Thus, contrast sets were characterized by the following physiographic attributes:

Bottom/Terrace Group

Bottom - contains bottom sites north and south of the Divide.
Terrace - contains terrace sites north and south of the Divide.

North/South Group

North - contains bottom and terrace sites north of the Divide.
South - contains bottom and terrace sites south of the Divide.

CHAPTER 2

PROJECT AREA DESCRIPTION

Introduction

The project research universe can be best understood by having a general knowledge of the geological history of the area, located in Tishomingo County, Mississippi. Originally a part of the Gulf of Mexico, the area was subject to depositions of gravel, sand, and clay, which washed into the area from adjacent upland areas. The unconsolidated sediments were laid down over the older consolidated sedimentary rock (Orvedal and Fowlkes 1944), forming a shelf which had a flat, plateau-like topography (Lowe 1925). Subsequent emergence of the Gulf bottom exposed the shelf to degradational forces. Streams rapidly cut through the unconsolidated sediments in a dendritic pattern, while other degradational forces reworked the sediments into various soils. As stream dissection matured, the dendritic pattern of surface water run-off culminated in two main streams which flowed in opposite directions from the highest point of the shelf (Lowe 1925, Mellen 1958). Various meanders of the two main streams created fairly wide bottoms and gently undulating terraces which accompanied the two main streams.

Today, stream dissection appears to be stabilized. The area is characterized by sharp relief. Narrow winding ridges are interrupted by the dendritic drainage patterns. One of these patterns drains in a general northerly direction into Yellow Creek and the other drains generally south into Mackey's Creek. Each of these creeks is surrounded by terrain which is relatively flat next to the stream courses, rising to gently-rolling hills before reaching the steep slopes of the ridges.

Physiography

The project area, shown in Figures 1 and 2, is confined to bottom and first-terrace land adjacent to Mackey's Creek and Yellow Creek. Eight sites lie along Yellow Creek. One of the eight, 22Ts747, is located on bottom land and the remaining seven sites are located on first terraces above the creek. Three sites are located south of the Tennessee Valley Divide along Mackey's Creek. One of these sites, 22Ts777, is located on the first terrace while the other two are located on bottom land. The site having the highest elevation, 22Ts577, is located 155 meters above mean sea level and is north of the Divide. The northernmost and southernmost sites lie at an elevation of 131 meters and 129 meters respectively. Ten of the sites are located on land which has been cultivated within the last two years, while one site 22Ts506, is covered by a secondary growth of saplings estimated to be about five years old.

Soil and Drainage

The parent soil of the uplands is Upper Cretaceous sediment (Lowe 1936, Orvedal and Fowlkes 1944, U.S. Army Corps of Engineers 1972). These have developed in an environment of high rainfall, relatively high temperature, and forest vegetation consisting of a mixture of coniferous and deciduous

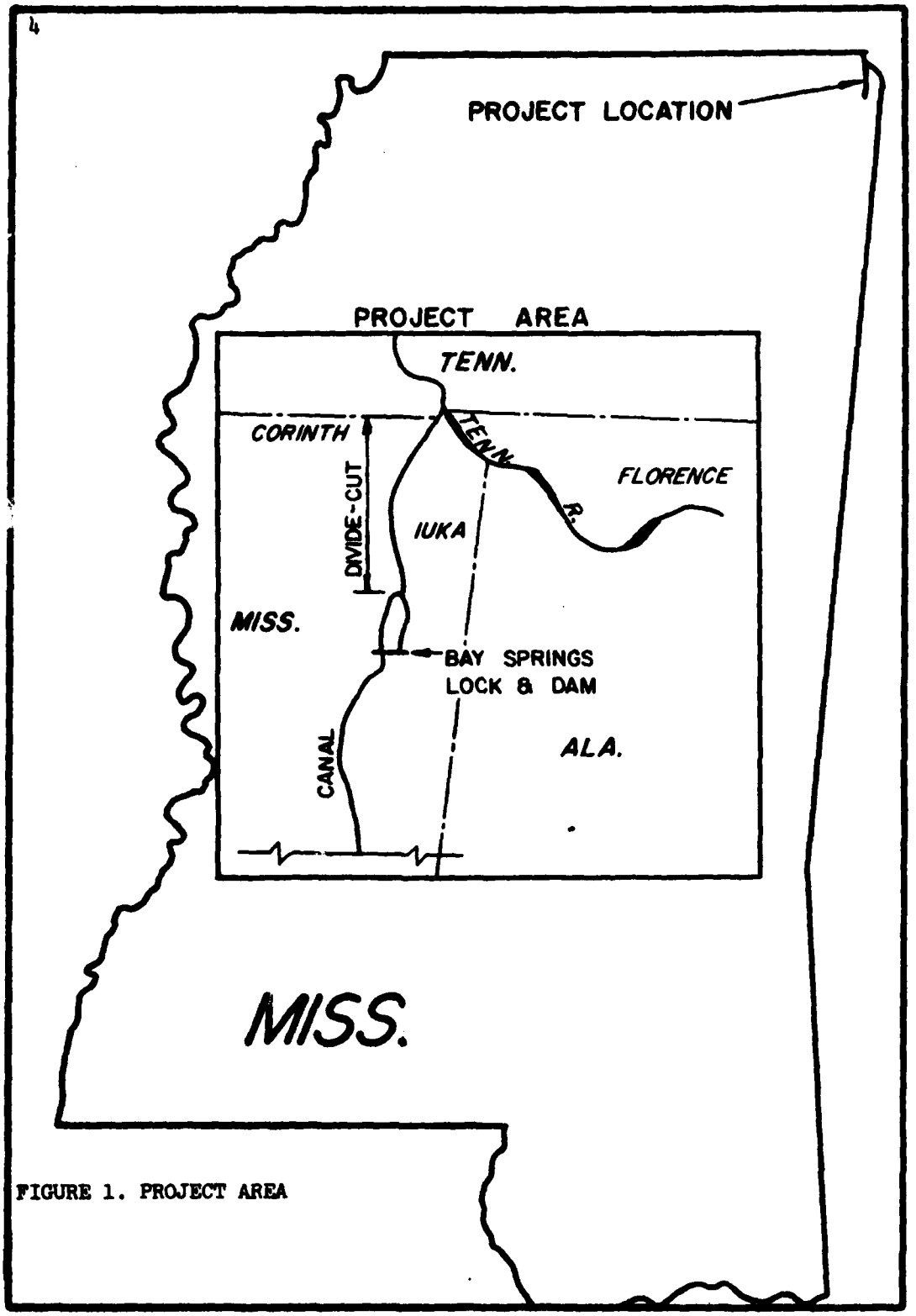


FIGURE 1. PROJECT AREA

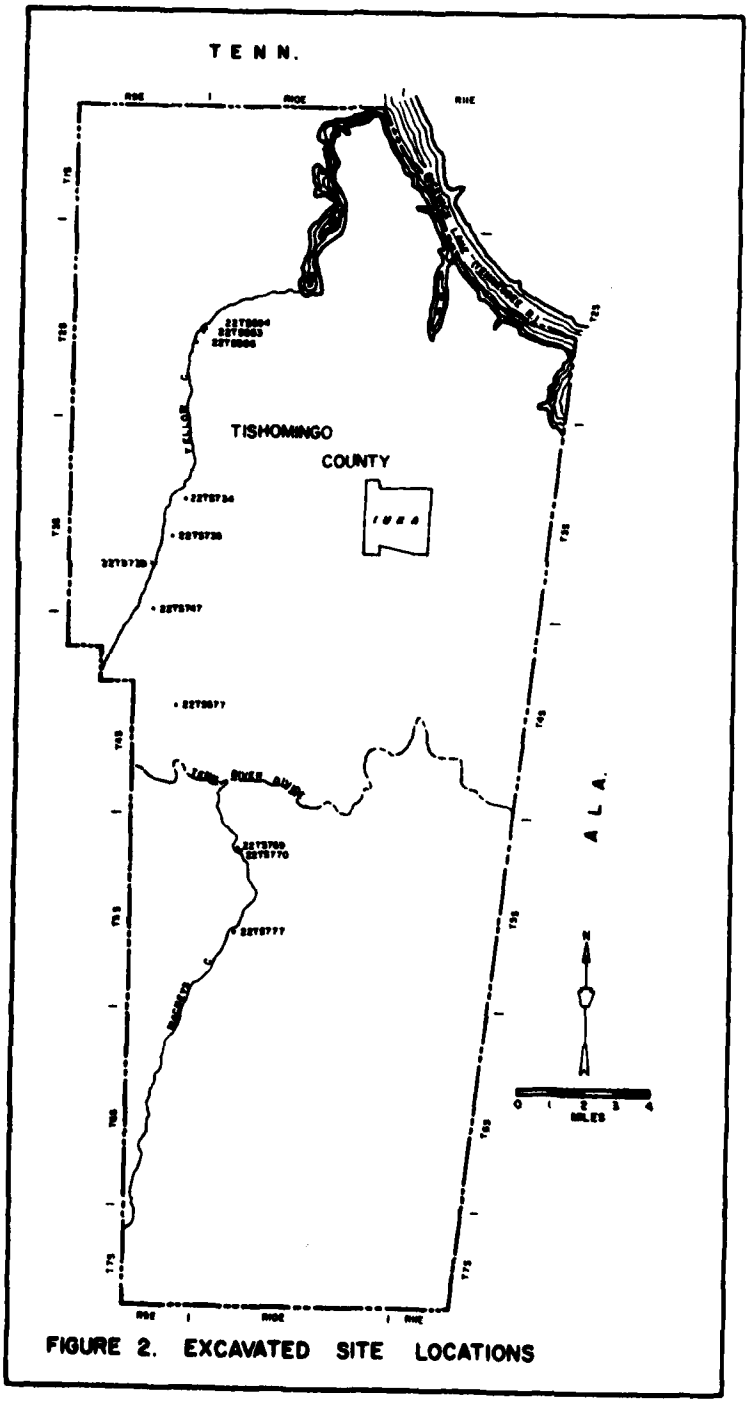


FIGURE 2. EXCAVATED SITE LOCATIONS

trees. As a consequence, these soils are characterized by high acidity. Because of the intense activity of micro-organisms, the soils are low in humus and organic matter. At lower elevations along the stream terraces, the parent soil is the same as that of the uplands, but in the form of old alluvium. The bottom soil consists of recent alluvium from adjacent uplands. With respect to characteristics such as pH and organic content, the uplands, bottoms, and terraces are therefore quite similar (Orvedal and Fowlkes 1944).

In the project area, each site is associated with one of only two soil types. These types are the silt loams or fine sandy loams of the Iuka and Prentiss series. Both of these types are strongly to very strongly acid in reaction, varying in pH from 4.5 to 5.1, and are well-leached of lime and other bases.

From the agricultural point of view, drainage of the project area is good. During the 1976-77 winter field season, however, drainage was extremely poor from the archaeological viewpoint. The wide bottom accompanying the Yellow Creek drainage system in particular permitted water to stand on or around the sites for weeks.

Climate

Climate is not considered to be a significant site-specific variable for the project area and is presented here for comparison with other regions. The climate of the project area is typical of humid continental conditions, with hot summers, mild winters and an annual rainfall of about 132 centimeters (Sanders 1959). Table I is reproduced from the United States Department of Agriculture Soil Survey for Alcorn County, Mississippi, the county nearest the project area for which climatic data have been compiled (Orvedal and Fowlkes 1944). The average frost-free period of about 214 days falls between late March and late October.

Geology

Site-specific activities have been analyzed utilizing the geologic base as the major consideration, and the geological complexity of the area has a direct impact upon what has, and has not been learned of site activity. The review of the region's geological history which is presented below appears to be generally acceptable and is recounted here to demonstrate that a knowledge of the area's geomorphology will establish an understanding of the practical limits to which the analysis of the archaeological materials recovered from the various sites may be taken.

During the Upper Cretaceous, depositions were laid down in the Gulf of Mexico over the older consolidated sedimentary rock. The older rock, consisting of sandstone, shale, and various forms of limestone, belongs to the Mississippian and Devonian periods of the Paleozoic (Orvedal and Fowlkes 1944). The depositions consist of sand, clay, and water-sorted cherts in the form of gravel. These irregularly-bedded depositions are known as the Tuscaloosa formation.

MONTH	TEMPERATURE			PRECIPITATION		
	MEAN °F	ABSOLUTE MAXIMUM °F	ABSOLUTE MINIMUM °F	MEAN Inches	TOTAL FOR THE DRIEST YEAR (1925) Inches	TOTAL FOR THE WETTEST YEAR (1932) Inches
December	43.3	78	4	5.77	2.89	7.46
January	42.0	78	-8	4.98	3.74	14.19
February	43.5	82	-1	2.66	2.66	7.05
Winter	42.9	82	-8	15.01	9.29	28.70
March	52.3	92	14	5.51	1.09	4.14
April	61.0	100	27	4.79	2.98	3.94
May	69.3	100	35	4.50	.82	1.34
Spring	60.9	100	14	14.80	4.89	9.42
June	77.0	105	42	3.76	3.24	7.04
July	80.0	111	50	4.77	2.82	9.90
August	79.3	110	49	4.02	2.12	3.73
Summer	78.8	111	42	12.55	8.18	20.67
September	74.1	106	38	3.10	7.86	8.90
October	62.3	95	26	3.28	4.70	7.51
November	51.2	84	11	3.72	2.15	3.34
Fall	62.5	106	11	10.10	14.71	19.75
Year	61.3	111	-8	52.46	37.07	78.54

TABLE I. NORMAL MONTHLY, SEASONAL, AND ANNUAL TEMPERATURE AND PRECIPITATION AT CORINTH, ALCORN COUNTY, MISSISSIPPI.

(ELEVATION 470 FEET)

The parent material of the gravel component of the Tuscaloosa formation is chert of Mississippian origin (including Ft. Payne), and Devonian origin (Camden). Weathering of Mississippian and Devonian bedrock produced coarse lumps of chert. These lumps were carried generally eastward, becoming smoothed and rounded through the process of hydraulic transportation and were finally deposited over the Mississippian age Fort Payne formation, which lies near the project area. Thus, the gravel component of the Tuscaloosa formation consists of cherts of both Devonian age and Mississippian age. These gravels directly overlie the regularly-bedded tabular Ft. Payne chert. It is improbable that any of the Tuscaloosa gravel was transported for a distance of more than 160 kilometers (Marcher and Stearns 1962).

In the project area, both the Tuscaloosa formation and the Ft. Payne formation are rather easily accessible, and provide a source of raw material for the manufacture of lithic artifacts. Ft. Payne cobbles are a part of the Tuscaloosa formation and occur in the surface manifestation of the Tuscaloosa resource. Tabular Ft. Payne is exposed on the surface less than five miles from the northern most site excavated on this project, 22Ts554. It is possible that the lithic tools produced could have been manufactured from local tabular Ft. Payne chert, or from cobbles of Ft. Payne chert and other gravels of the Tuscaloosa formation which washed in from a distance. However, it is believed that the local Tuscaloosa formation provided the raw resource for the manufacture of the lithic material excavated from the eleven sites, as will be discussed in Chapter 4.

Flora and Fauna

The flora and fauna are presented as descriptive components of the environment and they are only briefly re-introduced in Chapter 6. No definitive floral or faunal remains were recovered from the excavations.

The project area is the northern limit for such water-tolerant species as the baldcypress (Taxodium distichum), water tupelo (Nyssa aquatica) ("tupelo gum"), and such moisture-tolerant species as the cow oak (Quercus michauxii) ("basket oak"), and cherrybark red oak (Quercus falcata var. pagodeafolia). The loblolly pine (Pinus taeda) prefers moist hill sections or Coastal Plain and does not survive north of the project area. The species normally found further north that terminate in the project area are the scrub pine (Pinus virginiana), swamp chestnut oak (Quercus prinus), scarlet oak (Quercus coccinea), northern red oak (Quercus rubra), and the white basswood (Tilia heterophylla) (Coleman 1975).

Although the project area is complicated by lying in both the Southern and Northern Atlantic North American Floristic Regions (Good 1974), some floristic generalities are apparent. Hardwoods which produce hard mast tend to lie along the courses of creeks and rivers. These include the various oaks (genus Quercus), the hickories (genus Carya), the mayhaw (genus Crataegus), sweetgum (genus Liquid-ambar), the beech (genus Fagus), and the walnut (genus Juglans). As elevation increases away from the river valleys, the various pines (genus Pinus) tend to dominate.

Very little can be said of the understory and ground cover vegetation with regard to the Archaic and Early Woodland cultural contexts. No evidence whatsoever of exploitation of these food sources was uncovered during the excavations. However, the abundance of these plants tends to be inversely proportional to the overstory cover and to the acidity of the soil (United States Department of Agriculture Forest Service 1971). In another site within the project area, (22Ts765), charred hickory hulls were located in an apparently undisturbed context and radiocarbon dated within the Miller II occupational period at about A.D.650 (O'Hear and Conn 1976). Whether these hard mast representatives were incidental inclusions in a fire pit, food remains, or a form of fuel is unknown.

The complete absence of faunal remains on any of the sites except 22Ts506, where a small number of unidentifiable bone fragments and bone meal remained, precludes any positive knowledge of the faunal diet of the aboriginal occupants of the sites. A list of mammals, fish, amphibians, reptiles, and birds, has been compiled for the Bear Creek area some 65km east of the project area, and this list has been correlated with faunal remains on sites lying as far as 540km from Bear Creek in Alabama, Tennessee, and Missouri (Oakley and Futato 1975).

Hard mast suitable for winter food of forest game tends to be clustered along streams and adjacent valleys and may have supported mammal populations such as white-tailed deer (Odocoileus virginianus), black bear (Ursus americanus), squirrels (genus Sciurus) and birds such as turkey (Meleagris gallopavo), during the winter months. The same valleys provide browse during the spring and summer months, as browse tends to be present where overstory is spare and soil acidity is not strong. The upland pines contribute to soil acidity and provide dense overstory.

Although no indications of food sources were found on any of the sites, it appears that the stream valleys would offer the more promising meat source when compared to the upland areas, regardless of the season of visitation.

Pitted stones were found on three of the eleven sites. These were not found in sufficient numbers to indicate a major site activity. If one speculates that pitted stones were used in the processing of hard mast, an autumnal occupational season is suggested.

CHAPTER 3

SITE DESCRIPTIONS AND EXCAVATION PROCEDURES

Introduction

Specific descriptions for each of the eleven sites excavated under this contract are incorporated in the original cultural resources survey report (Thorne 1976). More generalized descriptions of the excavated sites follow and are ordered on a south to north basis.

Sites excavated and reported here include: 22Ts777, 22Ts770, 22Ts769, 22Ts577, 22Ts747, 22Ts738, 22Ts735, 22Ts734, 22Ts506, 22Ts553, and 22Ts554. Several general observations can be made about all of these sites: most notably, that they all occur on first terraces or in the stream bottom proper, that with the exception of 22Ts506, all have been recently cultivated; and all are situated on one of two soil types, both strongly to very strongly acid. Site-specific elements of these generalizations are shown in Table II and are intended to provide a visual overview of descriptive site elements.

Excavation Plan

Excavations were performed in accordance with the mitigation plan promulgated by the Memorandum of Agreement executed between the Advisory Council on Historic Preservation and the U.S. Army Corps of Engineers, signed July 1, 1976. Although this mitigation plan generally excluded the excavation of disturbed cultural deposits, the sites were extensively tested in areas which had been disturbed by plunder and/or agricultural practices. The material recovered from site testing was saved for analysis. In addition to the excavation procedures dictated by the mitigation plan, the following operations were performed:

1) Test pits were excavated through disturbed areas at all sites except 22Ts770, where only test postholes were excavated. All material recovered was sorted by provenience unit, cataloged, and subsequently analyzed.

2) Test postholes were excavated on all sites to a depth of one meter below the base of the plowzone. All the postholes were sterile, no buried sites were in evidence.

3) Total recovery techniques were employed for the collection of surface artifacts at all sites except 22Ts747 and 22Ts506. All material recovered was sorted by provenience unit, cataloged, and analyzed.

4) Approximately 65% of the undisturbed cultural deposits were salvaged at 22Ts735 instead of the 25% called for in the mitigation plan.

TABLE II. SITE LOCATION, PHYSIOGRAPHIC AND DESCRIPTIVE VARIABLES

Site	N. Lat. W. Long. Location	*Soil Type	Bottom or Terrace	N/S Divide
22Ts777	34°38'08" 88°16'04"	Prentiss	Terrace	S
22Ts770	34°39'47" 88°16'28"	Iuka	Bottom	S
22Ts769	34°39'52" 88°16'29"	Iuka	Bottom	S
22Ts577	34°43'44" 88°18'30"	Prentiss	Terrace	N
22Ts747	34°46'19" 88°19'18"	Iuka	Bottom	N
22Ts738	34°47'20" 88°19'24"	Prentiss	Terrace	N
22Ts735	34°48'15" 88°18'41"	Prentiss	Terrace	N
22Ts734	34°49'17" 88°18'08"	Prentiss	Terrace	N
22Ts506	34°53'39" 88°17'49"	Prentiss	Terrace	N
22Ts553	34°53'49" 88°17'39"	Prentiss	Terrace	N
22Ts554	34°53'52" 88°17'35"	Prentiss	Terrace	N

*Based upon typology assigned by soil survey (Orvedal and Fowlkes 1944).

Field Methodology

Horizontal Control. Horizontal control was maintained by establishing transit stations relative to landmarks which appeared on the project maps used by the Army Corps of Engineers for real estate acquisition. These are 1:6000 polyconic projections having a 5 foot contour interval with supplementary contours at 2.5 foot intervals. Fieldmaps were produced as the need arose to pictorially represent the archaeological investigations, and the specific landmark used to establish the transit station was used as the site-specific map referent.

Two possible horizontal measurement systems were identified and the particular system selected for each site based on the size of the area to be studied. A rho-theta system was used on large sites where cultural debris was thinly and widely scattered. A modified Chicago grid system was used on small sites and on sites having a relatively heavy scattering of cultural remains. In general, the rho-theta system was used in situations requiring rapid coverage of a large area in an attempt to localize a site, while the grid system was employed where the collection of a comparative sample of various areas of the plowzone was considered desirable.

Vertical Control. A transit datum plane was established relative to the charted elevation of the landmark used in horizontal control. The surface elevation of each test square and each level or zone elevation, was noted by five vertical measurements, one from each corner and one from the center.

Data Control. Each test square or trench was designated by a pair of grid numbers north and east of the transit station, or grid origin when a grid system was employed. When the rho-theta system was used, a letter of the alphabet was used to identify the test square within a site. Zones and levels were numerically identified within each test square.

Material collected in each provenience unit was designated by the site number, the square designation, and either the zone and level numbers or the feature number. In addition, a field specimen number was assigned to each provenience and these were continued consecutively throughout the excavation of the eleven sites. This was considered a necessary control because on any given day, two or more sites might be worked upon and the bagged material would be transported in one vehicle and stored in a single storage room. By reference to the field specimen log, the material was easily sorted into the proper provenience units and washed and cataloged at a later date.

Excavation Control. Test squares or trenches were cleared of vegetation and each level or zone was removed in 2 or 3cm slices using square-nosed shovels. At the bottom of each level or zone, the surface was troweled smooth and examined for features. Agriculturally disturbed spoil was screened through 1/4" hardware cloth. Spoil from all undisturbed cultural deposits was similarly screened. Soil samples for palynological analysis were removed *in situ* from undisturbed cultural deposits with a clean trowel and submitted for analysis.

Specific Site Excavations

22Ts777 (James Wilson), Figure 3. The James Wilson site lies slightly over eight kilometers to the south of the Tennessee Valley Divide on the eastern side of Mackey's Creek. The creek is approximately 200 meters to the west and agricultural drains border the site to the north and south. The site is on a northwest-westward sloping terrace overlooking a floodplain and is at an elevation of 129 meters above mean sea level. Surface soil consists of a light brownish gray sandy material identified as Prentiss silt loam by the soil survey handbook, which also reported it as strongly acid to very strongly acid (Orvedal and Fowlkes 1944). The site was covered with Johnson grass.

The site is relatively large with the total artifact distribution being rather thinly scattered over approximately one hectare. At the time of the original survey, the site had been plowed and a portion recently cleared (Thorne 1976). In the intervening period between survey and excavation, the site had been cultivated for hay and evidences of prior clearing activities had largely disappeared. A seventy-year-old local informant reported that the site had been farmed throughout his lifetime.

The field in which the site is located was sectioned into four quadrants on a 310° baseline for navigational control of the surface search. Total recovery of all surface artifacts was accomplished for each of the quadrants. Three meter by one meter verification test trenches were excavated at location A through H to the base of the plowzone. No features were present below the plowzone. Test postholes were excavated in Test Trenches A through D. An area defined by points 1 through 6 was mechanically stripped of plowzone. No undisturbed cultural deposits existed beneath the plowzone and the site was closed. Table III tabulates the material recovered.

22Ts770 (South II), Figure 4. The South II site lies approximately 5.25 kilometers south of the Tennessee Valley Divide on the eastern bank of Mackey's Creek at an elevation of 133.5 meters above mean sea level. Cultural debris covered an area approximately 300 meters long parallel to the creek and some 100 meters inland from the left bank, according to the survey (Thorne 1976). The site is bounded on the eastern side by a shallow swale and on the north by a similar drain which effectively separates this site from the J.H. South I site (22Ts769). Site terrain is very flat, with drainage on the side away from the creek and toward the swales to the north and east. The site had been intensely farmed prior to excavation and was covered with a dense growth of weeds. The site is located on a light brown very sandy clay loam assigned to the Iuka series (Orvedal and Fowlkes 1944).

Because of the very large size of the site, an uncontrolled surface search was carried out, employing parallel transects spaced two meters apart. A total of ten artifacts was recovered, including the proximal end of a projectile point, and nine lithic debitage flakes. The paucity of material demonstrated the lack of any concentration of cultural debris. A local informant suggested that a mound had existed near the southern portion of the site, and that information combined with the negative

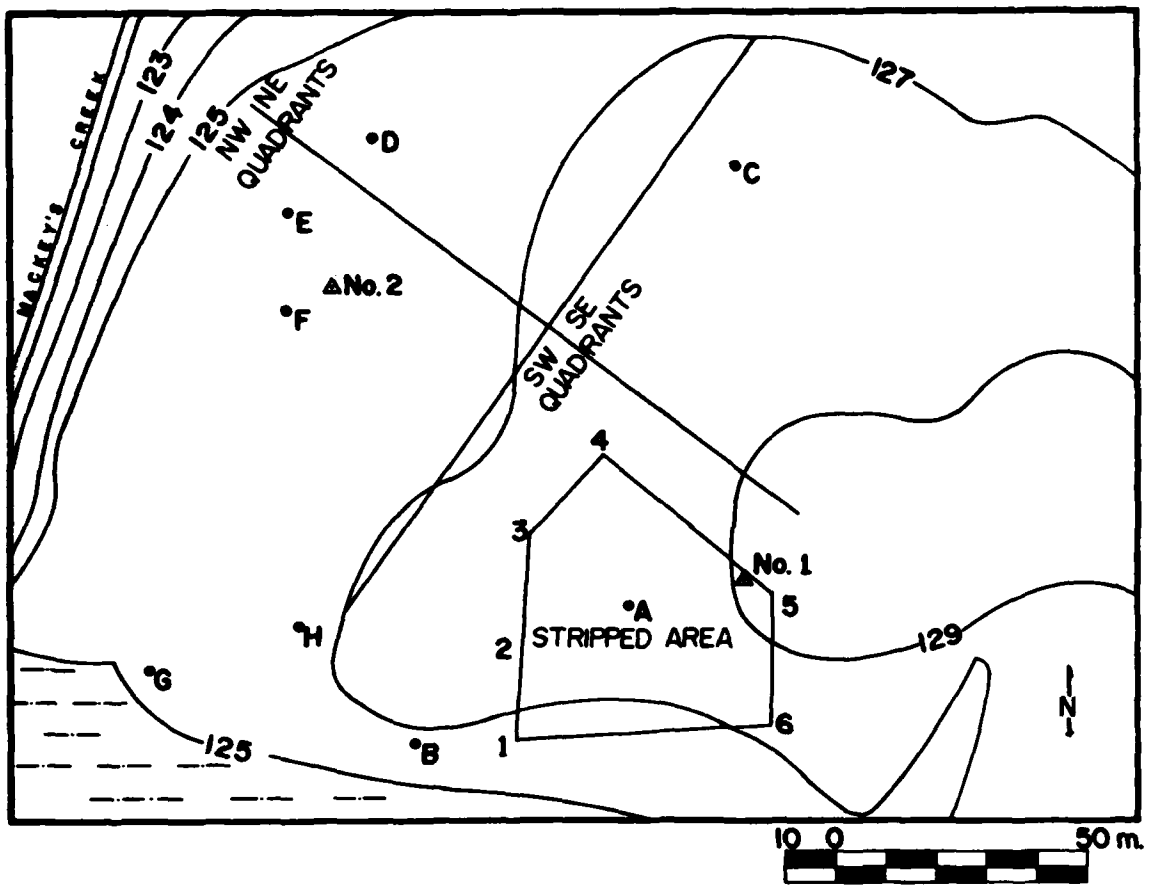


FIGURE 3. EXCAVATIONS AT 22Ts777.

TABLE III. CULTURAL MATERIAL RECOVERED FROM 22Ts777.

	NW QUAD	SW QUAD	SE QUAD	NE QUAD	TEST Tr.A	TEST Tr.B	TEST Tr.C	TEST Tr.D	TEST Tr.E	TEST Tr.F	TEST Tr.G	TEST Tr.H	PLOW-ZONE SPOIL
Chopper													7
Unstemmed Biface Roughout		1			2								23
Preform/Knife		2	1										14
Projectile Point	2	1			1								9
Knife/Point Fragment	2	2						1					17
Unstemmed Uniface Roughout		1											
Uniface Knife/Point Fragment													2
Side Scraper on Flake					1	1							16
Denticulate Flake		1											
Notched Flake													4
Debitage	12	969	55	11	106	135	13	96	6	4	4	5	1187
Tishomingo Plain		1			8								
Baldwin Plain		2			3	1							
Tishomingo Cordmarked		2			3								

NOTE: Tr. = Trench

results of the surface collection were used to partially arrive at the excavation procedures employed on the site.

Two areas were selected to be completely stripped, one on the southern end of the site near the alleged mound, and another on the northern end, near the J.H. South I site 22Ts769.

Twenty-eight test postholes were dug to a depth of one meter. Their locations with respect to the areas stripped are shown in Figure 4. When neither the stripping nor posthole testing yielded subplowzone features, site excavations were closed.

22Ts769 (South I), Figure 5. The J.H. South I site is located approximately 5.25 kilometers south of the Tennessee Valley Divide and is 100 meters east of Mackey's Creek. Site number 22Ts770 lies immediately to the south. The site is on a low rise, 133.5 meters above mean sea level. Immediately to the east and south of the site is a low marshy area which may represent an extinct meander of Mackey's Creek. Water draining from this marsh flows southward through the swale to the east of South II (22Ts770). Cultural debris is scattered over an area 20 meters wide by 80 meters long with the greater axis oriented east-west.

Total recovery search for surface artifacts was conducted. A three meter by one meter test trench was excavated at the location shown as Test Trench A. One meter test squares were excavated at location B through E. All test pits were excavated to the base of the plowzone and all spoil was screened. Test postholes excavated to 1 meter below the base of the test pits were sterile. The plowzone was mechanically stripped from the depicted area but no subplowzone features were present. Table IV lists the material recovered. Test squares C, D, and E were sterile.

TABLE IV. CULTURAL MATERIAL RECOVERED FROM 22Ts769.

	Surface and Plowzone Spoil	Test Trench A	Test Trench B
Preform/Knife	1		
Projectile Point	6	1	
Knife/Point Fragment	3		
Side Scraper on Flake	3		
Debitage	168	48	3

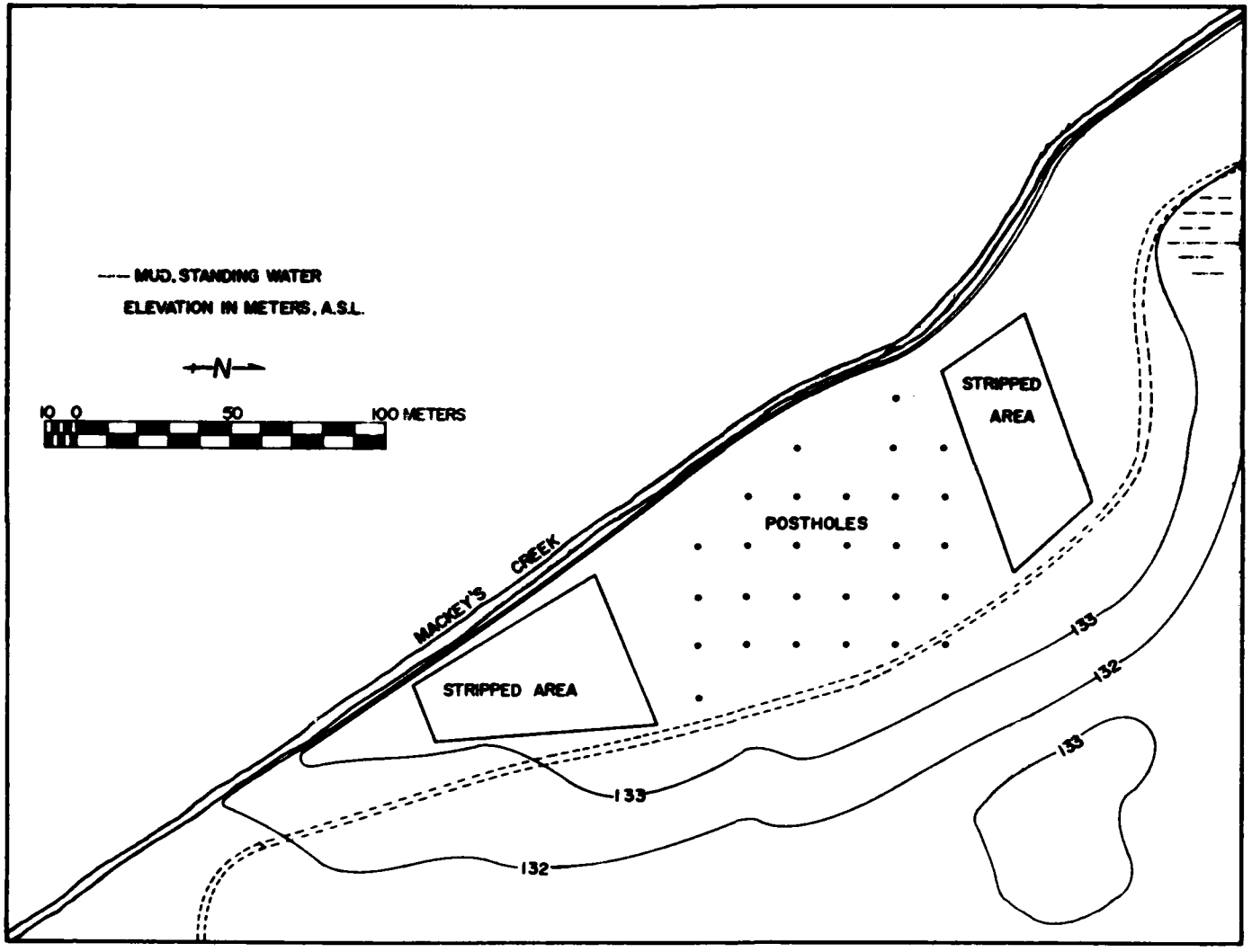


FIGURE 4. EXCAVATIONS AT 22Ts770.

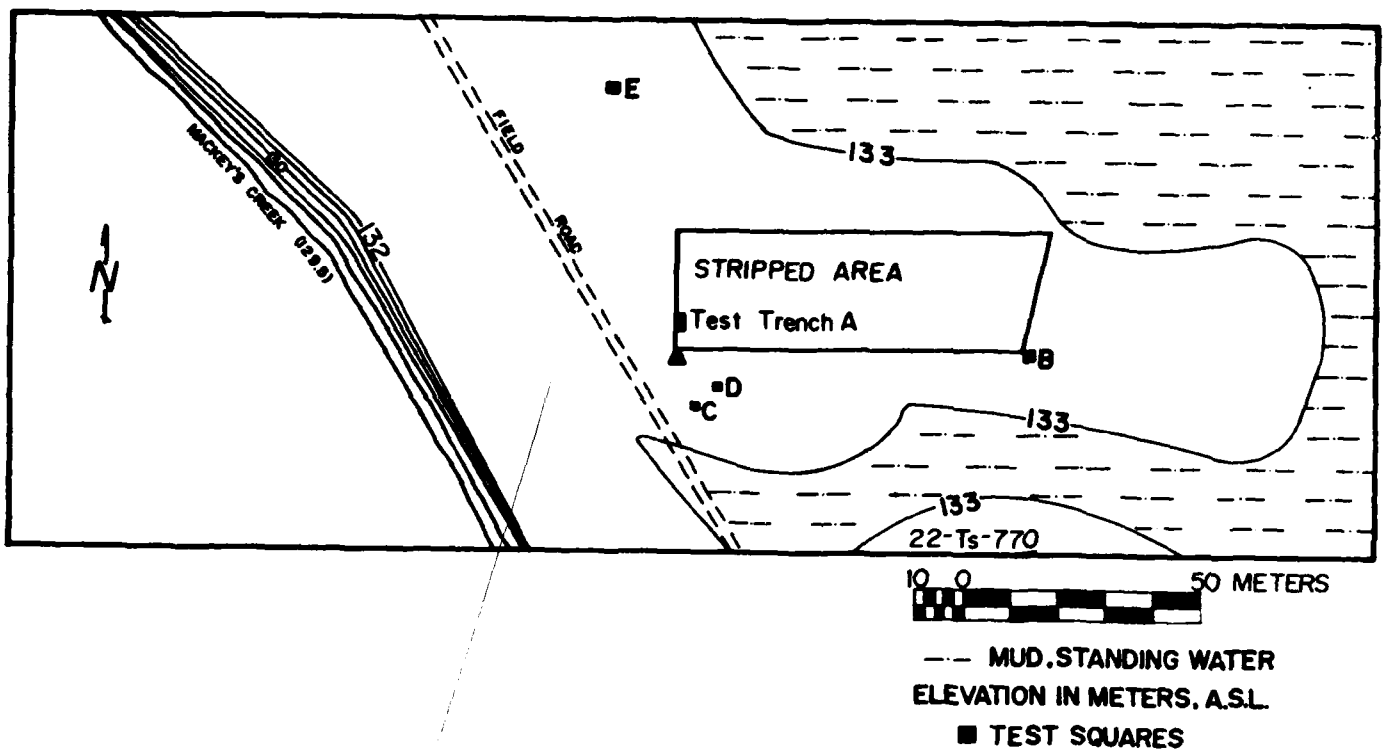


FIGURE 5. EXCAVATIONS AT 22Ts769.

22Ts577 (C.H. Helton IV), Figure 6. The Helton IV site is in a cultivated field about 1 1/2 kilometers north of the Tennessee Valley Divide and immediately north of Highway 364 at an elevation of 154.53 meters above mean sea level. On the western flank of the field is a drainage canal about 2 meters wide. On the eastern and northern sides are low marshy areas that are unsuitable for cultivation. Local informants claimed that fill for construction of the Highway 364 embankment was borrowed from an area about one kilometer ESE of the field and that none had come from the Helton IV site.

The topsoil of 22Ts577 was identified as a Prentiss silt loam which graded into Bibb fine sandy loam in the low areas west, north, and east of the field. Much of the topsoil was eroded, consisting of no more than 10cm of brownish yellow very friable silty clay overlying a light hard clay which contained many amorphous concretions and lenses of blue, muddy-looking clay. Generally, the plowzone ranged from 4 to 15cm in depth. At the time of excavation, the field was heavily overgrown with weeds and grasses.

Total recovery surface collection was conducted in areas A through K. One 3.66 meter square control test unit was excavated in area K to verify surface collection. A grid of 30 test squares, each 3.66 meters square, was established in the area of highest artifact concentration. Eleven of the possible 30 squares were selected at random and excavated to the base of the plowzone. Material from all units was screened. No subplowzone features existed. A test trench, one meter wide and extending to one meter beneath the plowzone, was excavated in Squares 488N 500E and 488N 512E to their N-S boundaries. This trench was sterile. Artifacts recovered from the surface and from the excavations are listed in Table V.

In the excavation of this site, it was possible to obtain a valid random sample of plowzone artifacts within the area of highest surface artifact concentration and to simultaneously expose an areal valid random sample of subplowzone surface. Therefore, the site was not mechanically stripped following the hand excavation.

22Ts747 (Burney III), Figure 7. The Burney III site is located to the north of a small tributary of Yellow Creek, east of the creek channel and approximately 5 kilometers north of the Tennessee Valley Divide. The site is on a low knoll at an elevation of 142.95 meters above mean sea level. When the site was first recorded, it was in a plowed field and all evidence suggested that agricultural practices had destroyed much of the site. The distribution of artifacts was relatively constant across the expanse of the site with no notable concentrations evident (Thorne 1976). At the time of excavation, the site was no longer farmed and was covered with a dense growth of grass and weeds. Topsoil on the site consisted of a grayish-brown, friable, sandy loam appearing to be Iuka fine sandy loam.

Twelve 1.83 meter square test units were established at the center of the reported location (Thorne 1976) of the site. All test squares were excavated to the base of the plowzone. Spoil from 4 test squares was screened. No features were present. The site was inaccessible to heavy equipment. Material recovered from the site is shown in Table VI.

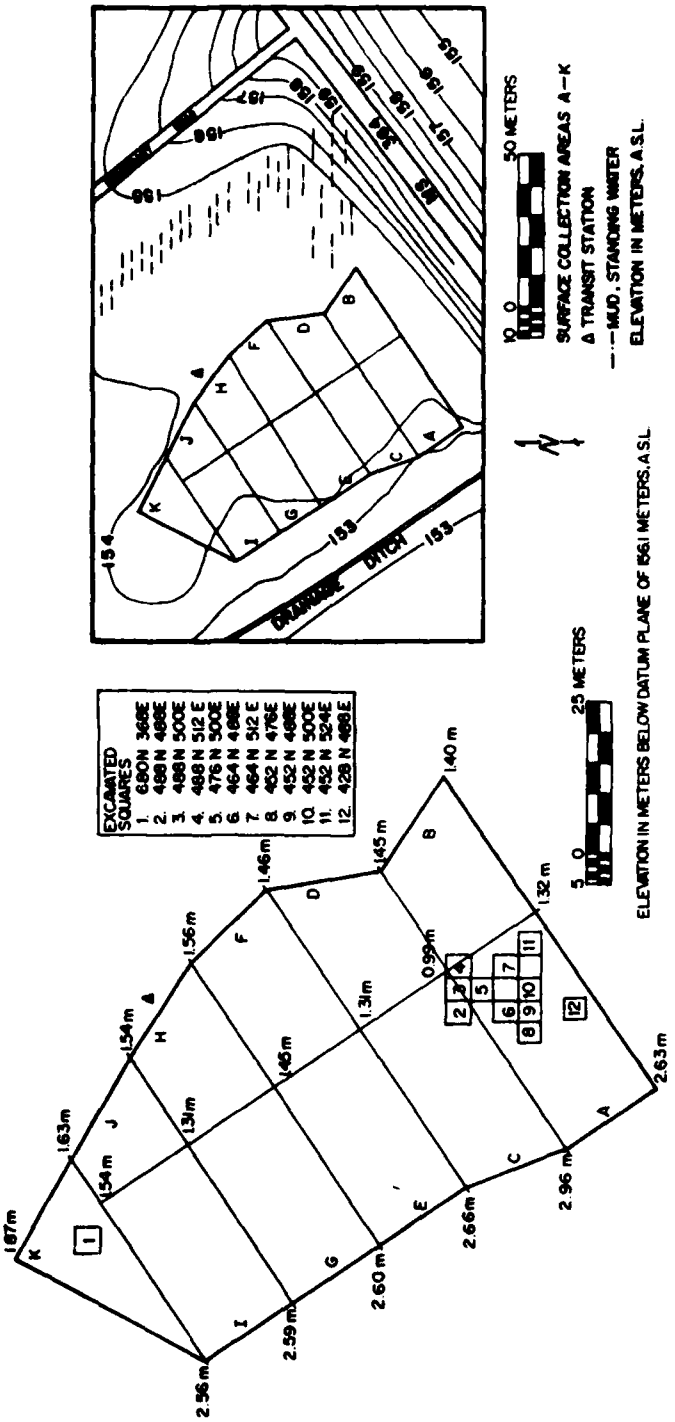


FIGURE 6. EXCAVATIONS AT 22Ts577.

TABLE V. CULTURAL MATERIAL RECOVERED FROM 22Ts577.

	Surface Area											SQUARE											
	A	B	C	D	E	F	G	H	I	J	K	680N 368E	488N 500E	488N 512E	488N 488E	476N 500E	464N 488E	464N 512E	452N 476E	452N 488E	452N 500E	452N 524E	428N 488E
Chopper			1				1								1			1					
Unstemmed Biface Roughout	5	3	4			2			1						1	4		3	2	4	2		
Preform/Knife	1		1		1								1	1		1	3	4	8	4	3	3	
Projectile Point	1	2											3	2	1	1	3	2	1	4	1	3	1
Knife/Point Fragment	3	4	1	2	1	1				2	1		16	13	9	8	8	14	20	16	18	10	6
Drill/Drill Fragment	1		1		1								1			1	1		1		3		
Side Scraper on Flake	7	3	5	4	2	1	1	1			1		10	1		6		12	4	13	20	19	
End Scraper	1														1								
Notched Flake			2						1					1						1			
Graver																1							
Discoidal Scraper																		1					
Debitage	585	225	231	140	24	31	14	29	42	55	59	12	865	586	323	689	914	613	1093	576	302	290	368
Hammerstone	2								1					2		1				3	2		
Thomas Plain	1		1					1		2			4	2	1								
Tishomingo Cordmarked													1										

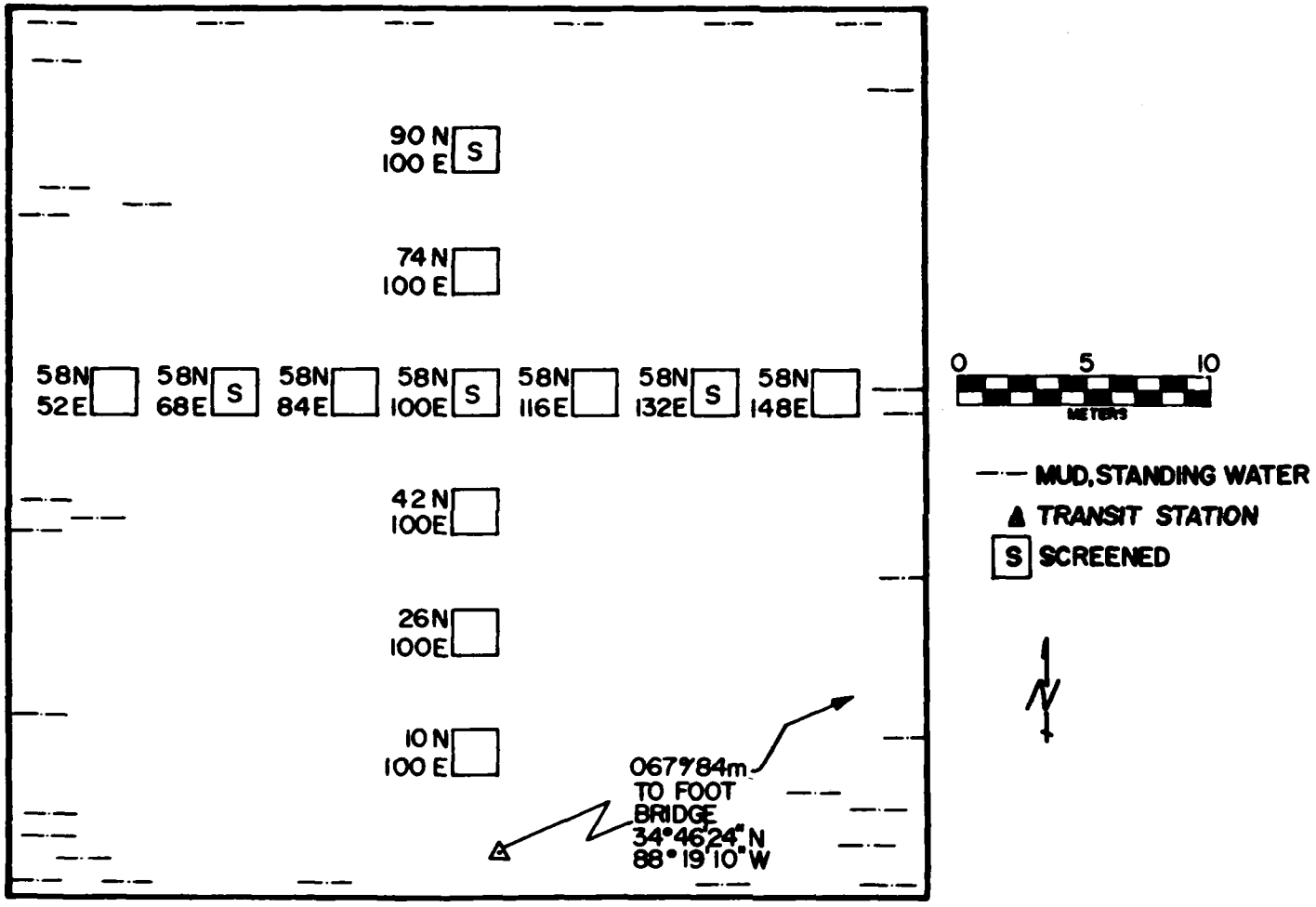


FIGURE 7. EXCAVATIONS AT 22Ts747.

TABLE VI. CULTURAL MATERIAL RECOVERED FROM 22Ts747.

	SQUARE											
	10N 100E	26N 100E	42N 100E	58N 100E	74N 100E	90N 100E	58N 52E	58N 116E	58N 68E	58N 84E	58N 132E	58N 148E
Chopper		1										
Unstemmed Biface Roughout		1	1		3	1	2		1	1		
Preform/Knife		2	4			1						
Projectile Point	1	1	1	2						1		
Knife/Point Fragment	1	5		2	3	1	1			2		
Side Scraper on Flake	1	3		1	1		2		1		1	
Notched Flake	1		1									
Debitage	110	60	122	107	138	42	23	26	84	54	56	38
Pitted Stone							1					
Hammerstone		1	2				2		2			

22Ts738 (R.D. Glidewell), Figure 8. The R.D. Glidewell site is located on the west side of Yellow Creek canal on the first terrace and on the east side of Berea Creek at an elevation of 147.87 meters above sea level. The site covers the top of a knoll which was estimated as 300 meters long by 150 meters wide. The axis of the knoll is generally north-south.

The Glidewell site had been under cultivation as long as any of the local informants could remember. The amount of lithic debris on the surface of the knoll could have been conservatively described as dense. An informant said that he had seen "at least a pickup load of arrowheads hauled off from this field." At the time of excavation, the summit of the knoll had been harvested of its dent corn by hand-picking, which left the dead stalks standing. The base and the lower one-third of the slope of the knoll had been planted in cotton, which had also been harvested.

The topsoil of 22Ts738 is a dark yellowish gray, typical of the Prentiss silt loam of the terraces in this particular area. The B Horizon underlying the plowzone is considerably lighter and has a more sandy consistency. The excavations did not go to sufficient depth to discover the putative hardpan layer underlying the B Horizon.

Nineteen one meter by one meter squares were excavated to the base of the plowzone at the depicted locations. Eight of these squares were excavated in a small area where the soil was considerably darker than the remainder of the site. The spoil from all excavated squares was screened. No subplowzone features were present. The site was plowed and the furrows were checked for indications of subplowzone pits. None were present. The site was not stripped because it straddled the property acquisition boundary. Cultural material from the site includes all the material recovered from each square and all non-debitage lithic artifacts picked up at random during the excavations. The material is listed in Table VII.

22Ts735 (Robert M. Wright), Figure 9. This site was not confined to the plowzone and contained undisturbed cultural deposits. As a consequence, the excavation will be described in detail.

The Robert M. Wright site is located on a sloping terrace about 20 meters east of an extinct channel of Yellow Creek at an elevation of 144.38 meters above mean sea level. The field in which the site is located appeared to have been in pasture for several years. The field was bounded on three sides by pine. The pine gave way to hardwoods fairly abruptly, as can be seen in Photograph 1. The site was completely sealed over by a dense covering of grass. Photograph 2 presents a typical view of the surface conditions of the site.

The surface soil appeared to be yellowish brown Iuka fine sandy loam, however, it was typed Prentiss by the soil survey (Orvedal and Fowlkes 1944). In area where midden deposits were located, the dark brown midden soil interposed between the sandy loam and a lighter brown, mottled layer covering the subsoil. All of the soil was very friable, loosely-textured, and quite damp.

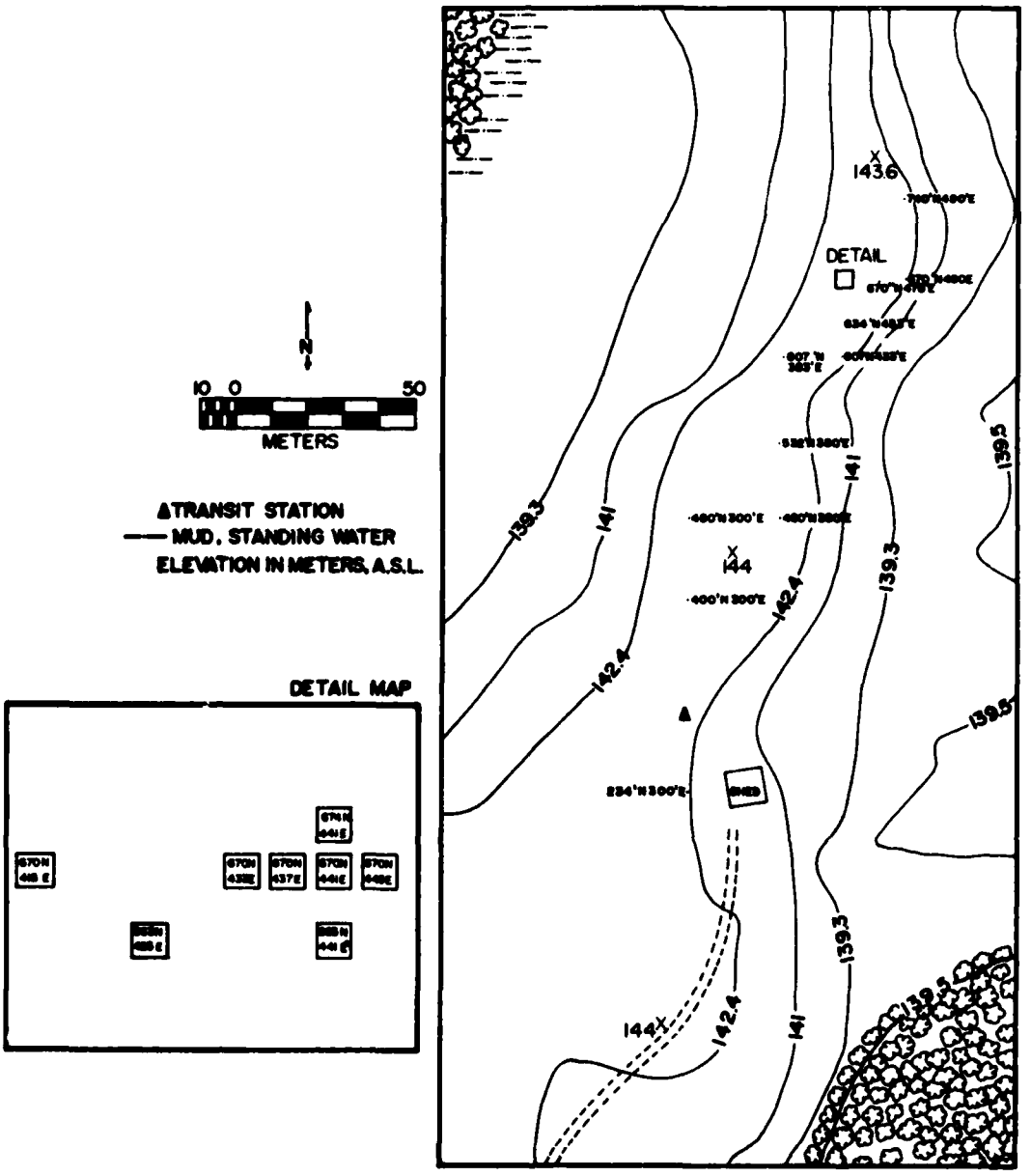


FIGURE 8. EXCAVATIONS AT 22Ts738.

TABLE VII. CULTURAL MATERIAL RECOVERED FROM 22Ts738.

	234N 300E	400N 300E	430N 300E	430N 385E	532N 385E	607N 385E	607N 433E	634N 433E	670N 433E	670N 490E	740N 490E	670N 437E	670N 441E	670N 445E	663N 441E	674N 441E	670N 478E	670N 415E	663N 425E	Flowzone Surface
Chopper			1																	
Unstemmed Biface Roughout		1			1			1	2			2	1			1				3
Preform/Knife						1	1					2			2		1			7
Projectile Point	1		1	1		1			3	2		1	1		1	2		1		8
Knife/Point Fragment		2	5	3		4	1	3	5			2	8	6	3	8	1	2		41
Drill/Drill Fragment									1				2		1				1	
Uniface Knife/Point Fragment				1				1								1			1	
Side Scraper on Flake	4	7	2	4	3	3			3	2	2	2	5	3	3	8	1	6		1
Denticulate Flake		1																		1
Notched Flake																				4
Debitage	40	94	66	117	35	121	19	46	100	38	13	206	187	120	175	350	43	90	66	
Pitted Stone														1						1
Hammerstone																				1

The field in which 22Ts735 was located was sectioned into Quadrants I-IV to allow close navigational control in the surface collections. The cultural material recovered from the surface is shown in Table VIII.

The highest concentration of cultural debris on the surface was found to lie on the southern periphery of Quadrants I and IV. Thus, the excavation of test squares was initially conducted in these quadrants.

Test Square A (1.83 X 1.83 meters)

Once the heavy vegetative overgrowth was removed, the soil beneath was shaved in 2 to 3cm slices and screened. The disturbed plowzone was excavated to its base. The base of the square was then troweled smooth and examined for features. No features were present. Table IX lists the cultural material recovered from Test Square A.

Test Square B & C (1.83 X 1.83 meters)

Locations of the squares are depicted in Figure 9. Cultural material recovered is shown in Table IX.

Test Square D (1.83 X 1.83 meters)

It was in Test Square D that indications of a midden area were first noted. The square was excavated in 3 arbitrary 10cm levels, and a midden-like layer appeared in profile along the eastern wall of the square. Three indistinct zones were visible in one wall of the excavation unit but could not be discerned in the bottom of the square during the excavation. It quickly became evident that as the vertical profile was exposed to the air, the color differences between the zones became more distinct. The location of the square is indicated in Figure 9. Table IX lists the material recovered.

Test Square E (1.83 X 1.83 meters)

Test Square E was excavated to determine the eastward extent of the midden area. It was excavated through 3 arbitrary levels of about 10cm. No midden was encountered in this square.

Squares F, G, H, and I (3.05 X 3.05 meters each)

When what appeared to be a midden layer was located in Test Square D and subsequently failed to be observed in Test Square E, the lateral extent of the deposit was fairly well defined, being located within the area bounded by Test Squares A, B, C, and D. Four 3.05 meters (10 feet) units designated as Squares F, G, H, and I were excavated in what was determined to be the area of greatest midden concentration. A pictorial representation of the squares is shown in Figure 9.

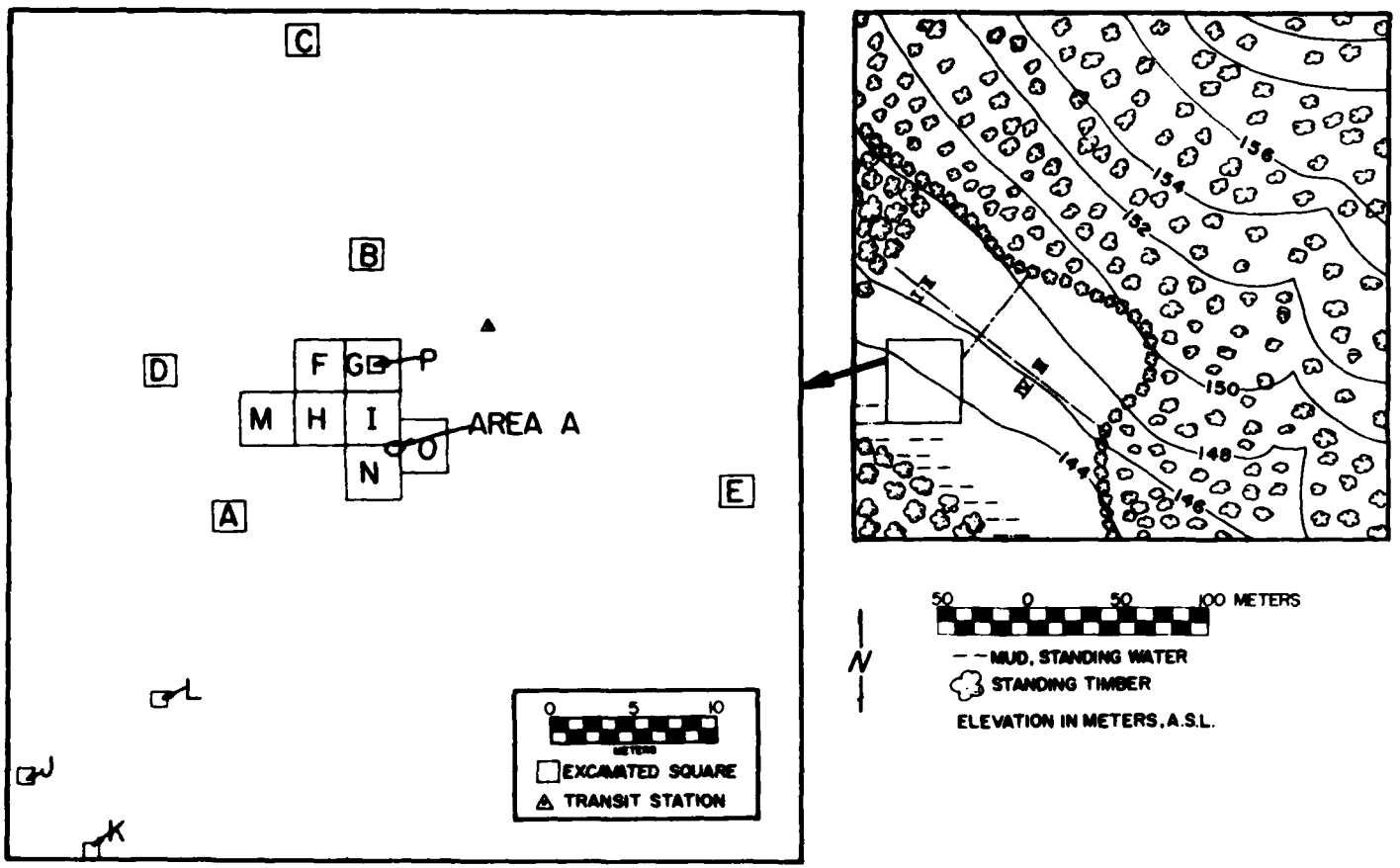
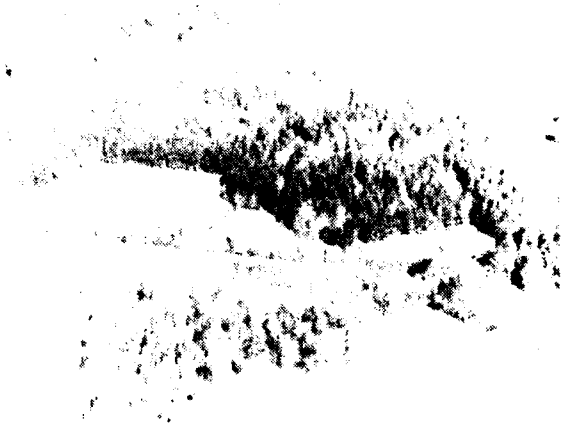
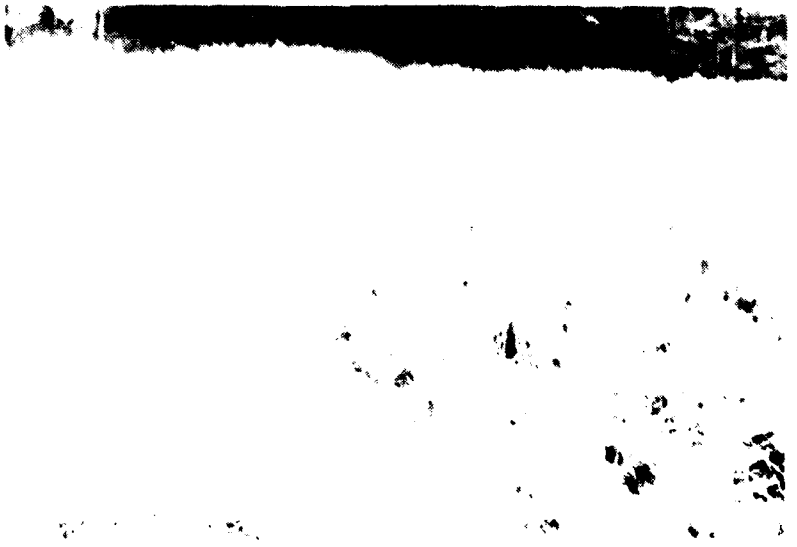


FIGURE 9. EXCAVATIONS AT 22Ts735



PHOTOGRAPH 1. AERIAL VIEW, 22Ts735. THE SITE IS IN THE CENTER OF THE PHOTOGRAPH. NOTE THE DARKER CONIFERS AROUND THE SITE.



PHOTOGRAPH 2. SURFACE CONDITIONS, 22Ts735.

TABLE VIII. CULTURAL MATERIAL RECOVERED FROM 22Ts735 SURFACE.

	QUAD I	QUAD II	QUAD III	QUAD IV
Unstemmed Biface Roughout	3			
Preform/Knife	5			
Projectile Point		1		
Knife/Point Fragment				3
Drill Fragment	1			
Side Scraper on Flake				1
Notched Flake	1			
Discoidal Scraper	2			
Debitage	510	12	60	300
Hammerstone	2		2	

TABLE IX. CULTURAL MATERIAL RECOVERED FROM 22Ts735.

AREA	MIDDEN			SQUARE														
				B			D			L		J		C	A	K	E	
ZONE	1	2	3															
LEVEL				1	2	3	1	2	3	1	2	1	2					
Chopper	6	7	9	1			1											
Unstemmed Biface Roughout	36	46	36	3	2		5	2	2				2	2	2	1		
Preform Knife	5	8	6	2														
Projectile Points	37	20	12	4			1							2				
Knife/Point Fragment	46	39	19	2	5		9	3	2		1		1	2	5			
Biface Scraper		1																
Drill/Drill Fragment	9	7	3	2			1	1										
Unstemmed Uniface Roughout	3	3	3					1										
Unifaced Knife/Point Fragment	2																	
Side Scraper on Flake	22	32	14	4		1	6		1			1			4	1		
Graver Scraper	3		1					1	1									
Microtool		3	1															
Discoidal Scraper	1	3	2					1										
Debitage	3836	3984	3608	602	307	145	582	360	121	47	95	72	70	201	496	63	118	3
Pitted Stone			2															
Ground Stone			1															
Polished Stone		1																
Hammerstone	6	10	8	1										1	1			
Clay Lumps:																		
Fired	2	10	10															
Dried	1	21	36															

Stratification

The soil of squares F through I was stratified into three similar layers. Zone 1, the plowzone, consisted of a dark brown friable sandy loam. Zone 2 was distinguished by a very dark brown to black layer appearing to be typical of midden deposits. Zone 3 was a dark brown and black mottled layer. The three zones were extremely difficult to distinguish except in profile. Each zone, somewhat more than 10cm thick, was removed by shaving in thin slices. This necessitated continual visual reference to the profile, and a switch from square-nosed shovel to trowel be made as the excavation approached the end of a zone. In Zone 2, several "features" appeared. These, somewhat darker than zone soil, were irregular stains whose outlines were so indistinct that when different crew members were asked to circumscribe one of them, no two circumscriptions coincided. All of the "features" were mapped by reference to the outlines drawn by the Field Investigator, but no pattern was discernible. Artifacts recovered from them were compared to artifacts recovered from the same level a few centimeters distant. No diagnostic differences were noted. Texture of the soil was identical throughout the zone. Figure 10 shows the midden profile. The cultural material recovered is shown in Table IX by zone.

Squares M and O (3.05 X 3.05 meters)

Squares M and O are indicated in Figure 9. Both units represent extensions of the primary excavation area. Square M was excavated because a large fragment of polished greenstone was uncovered in Zone 2 of the adjacent Square H. This artifact represented the only ground and polished stone tool uncovered in the project at that time, and it was hoped that Square M might contain other diagnostic artifacts. Square O was excavated to determine the eastward extent of the midden deposit, and in this square the outer limits of the midden area were reached. The cultural remains recovered from Square M (midden) and O (midden portion only) are shown in Table IX, collectively with Squares F, G, H, and I.

Square N (3.05 meters square)

Square N was removed in an effort to delineate the remainder of a large stain, designated Area A, which appeared at the base of Zone 3 in Squares O and I. At this time, a series of frontal storms was moving toward northeast Mississippi and it was important to uncover and excavate features before the heavy rains began. The effort failed, however, and Area A was covered with plastic sheeting to protect it for future excavation. Eight weeks elapsed before the site was sufficiently dry to resume excavations.

Area A

Area A appeared as a dark stain at the base of Zone 3 in the southeast corner of Square I, the center of the western perimeter of Square O, and the northeast corner of Square N. It is shown in Figure 9. The resumption of excavations of the "feature" incorporated the removal of the plastic sheeting and troweling smooth the surface of the stain. Although the shape was rather irregular, the stain appeared more regular than the typical tree stains which had been encountered at other sites in the project area. The

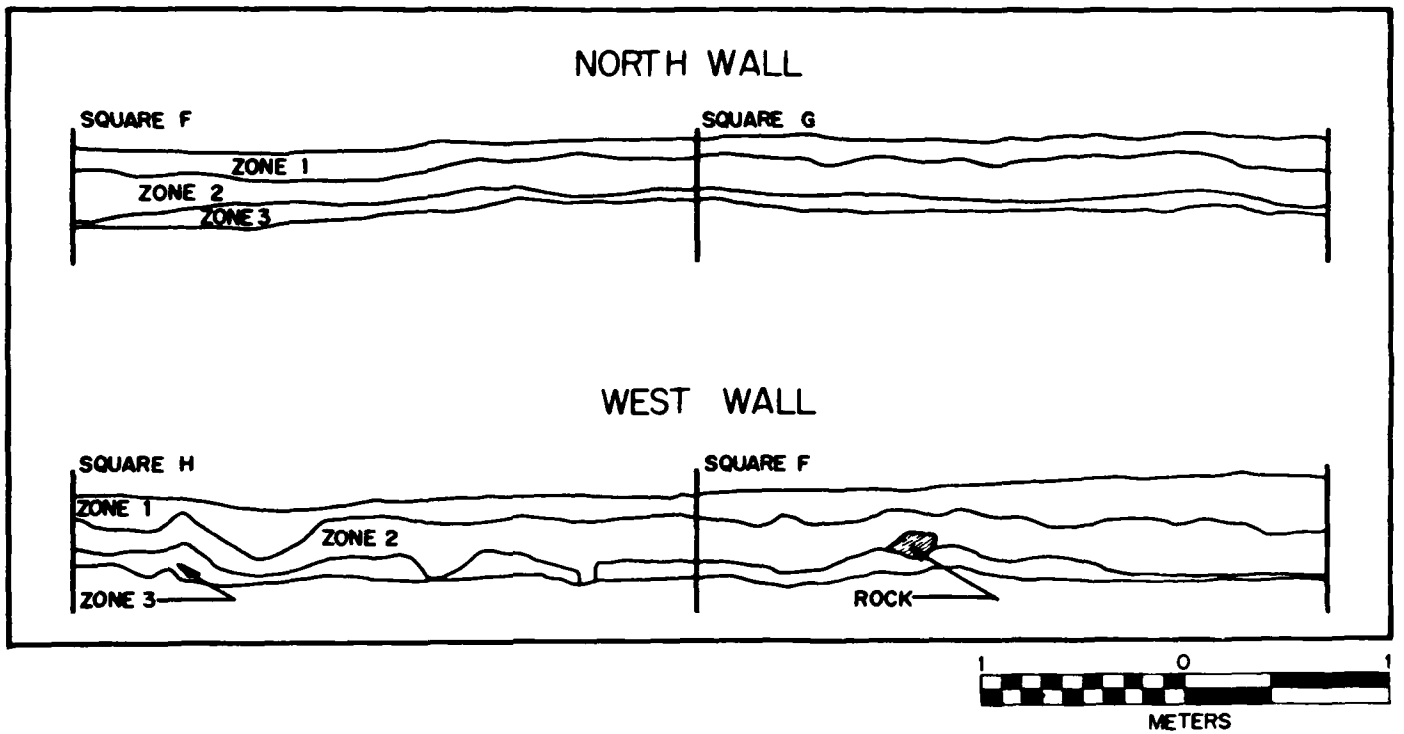


FIGURE 10. MIDDEN AREA PROFILE, 22Ts735.

stain when cross-sectioned on an east-west axis produced no definitive cultural debris. Two large sandstone rocks appeared at the base of Area A, but no function could be assigned. Area A was closed as an unidentified stain.

Squares J, K, and L (one meter square each)

The sole function of these excavations was to provide data to contrast with data recovered from the squares which lay within the midden area. The cultural material recovered from the outlying excavation units is included in Table IX. The locations are presented in Figure 9.

Square P (one meter square)

Square P was excavated at the base of Zone 3 in the center of Square G (Figure 9). The soil in this area was almost pure sand and very damp. The sub-Zone 3 soil was essentially sterile, with three small chert flakes being the only cultural material recovered. Three test postholes were sunk to a depth of one meter from the bottom of Square P. These were culturally sterile, and the color of the sand matrix did not change with depth.

Summary of Excavations

The lateral extent of the midden area was defined by Squares A, B, D, and O (Figure 9). Uncontrolled shovel tests immediately south of Square N confirmed that the midden area was quite small, estimated at around 100 centare. Sixty-five centare were excavated by removal of Square F, G, H, I, M, N, and O.

In the field, eight chipped stone tool types were defined for comparison of occurrence frequency per provenience unit to guide the excavations. The eight types are shown in Figure 11. As previously stated, the occurrence frequency differences between a "feature" area Zone 2 and an area of similar volume a few centimeters distant varied no more than 2% and was considered insignificant. More important, no more than 2% difference occurred among squares within the midden area. Therefore, all the squares lying within the midden area were considered a single unit, and the material recovered from each square was summed by zone. A comparison of three zones, Figure 11, demonstrates that the inter-zonal differences are minimal, except in the slightly lower occurrence frequency of Unstemmed Biface Roughouts within the plowzone, which might be expected on cultivated land, where rock might be picked up and thrown clear of the crop area. All of the projectile points were thought to be Archaic and no pottery was present. It seemed therefore that the three zones identified might well be a single long-term occupational area, either occupied periodically or sporadically but certainly frequently. The differences in colors among the three zones might be attributed to mixing of the midden layer with the plowzone of Zone 1 and with the sand beneath Zone 3. In long-term occupation of such a small area, the cultural remains had become mixed by the activites of the aboriginal inhabitants. The soil samples removed from Zones 2 and 3 were devoid of floral or faunal remains (Bryant Exhibit A) precluding any knowledge of the seasonality of occupation.

Category	Type
A	Points, Knife/Point Fragments, Preform/Knife, Uniface Knife/Fragments
B	Scrapers-all types not notched
C	Notched Flakes & Bifaces
D	Drills & Drill Fragments
E	Gravers & Graver/Scrapers
F	Microtool
G	Choppers
H	Unstemmed Roughouts, Uniface & Biface

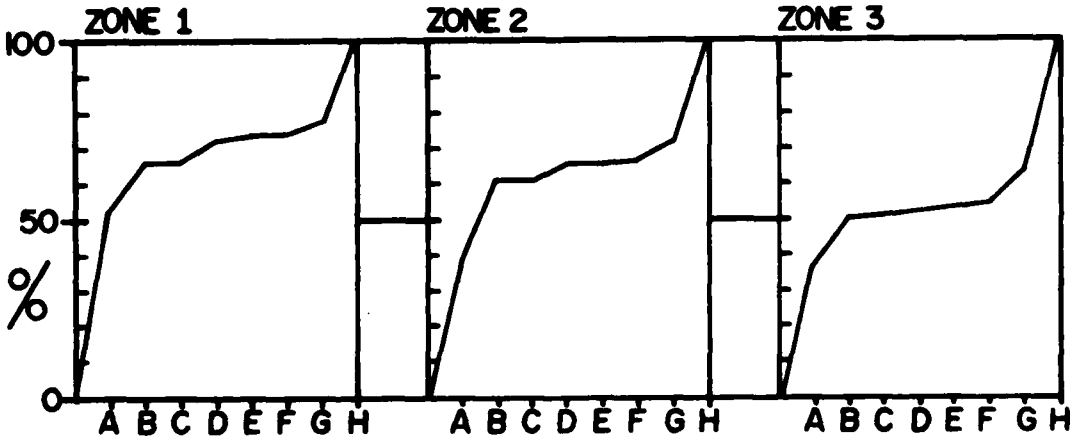


FIGURE 11. CUMULATIVE PERCENTAGES OF CHIPPED STONE TOOLS, 23-735.

22Ts734 (Braddock I), Figure 12. The Braddock I site is located approximately 12 kilometers north of the Tennessee Valley Divide on the eastern side of Yellow Creek on the slope of the first terrace above the creek at an elevation of 141.73 meters above mean sea level. At the time the site was initially located, it was in a plowed field, but at the time of excavation, the field was lying fallow and was overgrown with weeds.

The surface of the site was composed of a fine sandy brownish-gray topsoil, but this deposit frequently gave way to a red subsoil, indicating considerable erosion. Visual evidence indicated that the last plowing had been with the slope of the terrace, thus hastening the rate of erosion of the site.

The site covered an area 40 by 15 meters with the long axis oriented in a north-south direction. Artifactual material was scattered fairly evenly over the entire area with no concentrations of material noticeable. A concentration of modern artifactual debris, including glass, ceramics, and spent .22 caliber cartridges, was noted in the southern edge of the field in which the site was located.

Total recovery of surface artifacts was made in each of four quadrants. Six 3.05 meter test squares were excavated to the base of the plowzone in the area of the highest surface artifact density. All material was screened. Uncontrolled shovel tests were conducted north of Square 140N 100E to the perimeter of Quadrant I without results. The plowzone was stripped from the depicted area. No features existed beneath the plowzone. Material recovered is listed in Table X.

22Ts506 (Brown I), Figure 13. The Brown I site is located on an elliptical knoll on the eastern side of the Yellow Creek floodplain. It is on the edge of the first terrace overlooking an extinct creek meander immediately to the south of the site and the present canal to the west. When the site was first recorded (McGahey 1970:17), it had already been extensively damaged. When Thorne (1976) revisited the site the extent of destruction was considerably advanced above the level reported earlier, especially in the portions of the site not covered with second growth vegetation. "Pot-hunting" or "point collecting" activities continued until immediately prior to the onset of the excavations at the site. The efforts of these treasure seekers had totally destroyed the site.

The site was inaccessible to heavy equipment. Photographs 3 and 4 indicate typical damage throughout the site area. One 8.25 meter by 1.5 meter test trench (A) was excavated from the summit of the site to the northwest. From the end of this trench, three 3 meter by 1.5 meter test trenches (B,E,F) were excavated to the northeast with a 75cm balk separating them. Test trenches C and D, each 2 meters by 1 meter, were excavated at the base of the northern limit of the knoll, outside the midden area. Seven 1.83 meter test squares were excavated at random locations within the midden area. Each trench or square was excavated to sterile soil. All material was screened. No features or undisturbed midden area existed. Cultural material listed in Table XI was sorted, cataloged, analyzed, and stored by provenience unit, but it is tabulated collectively because of the

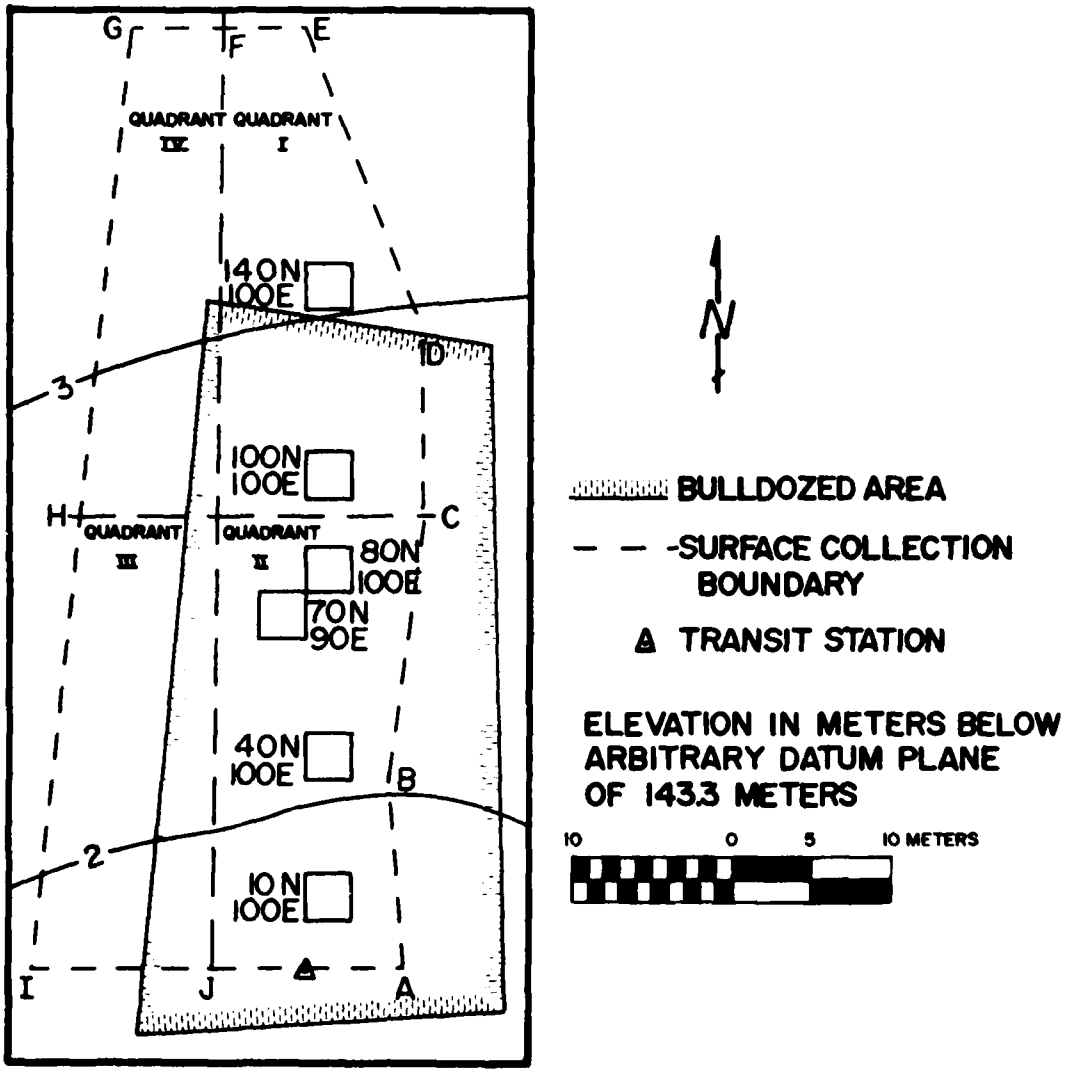
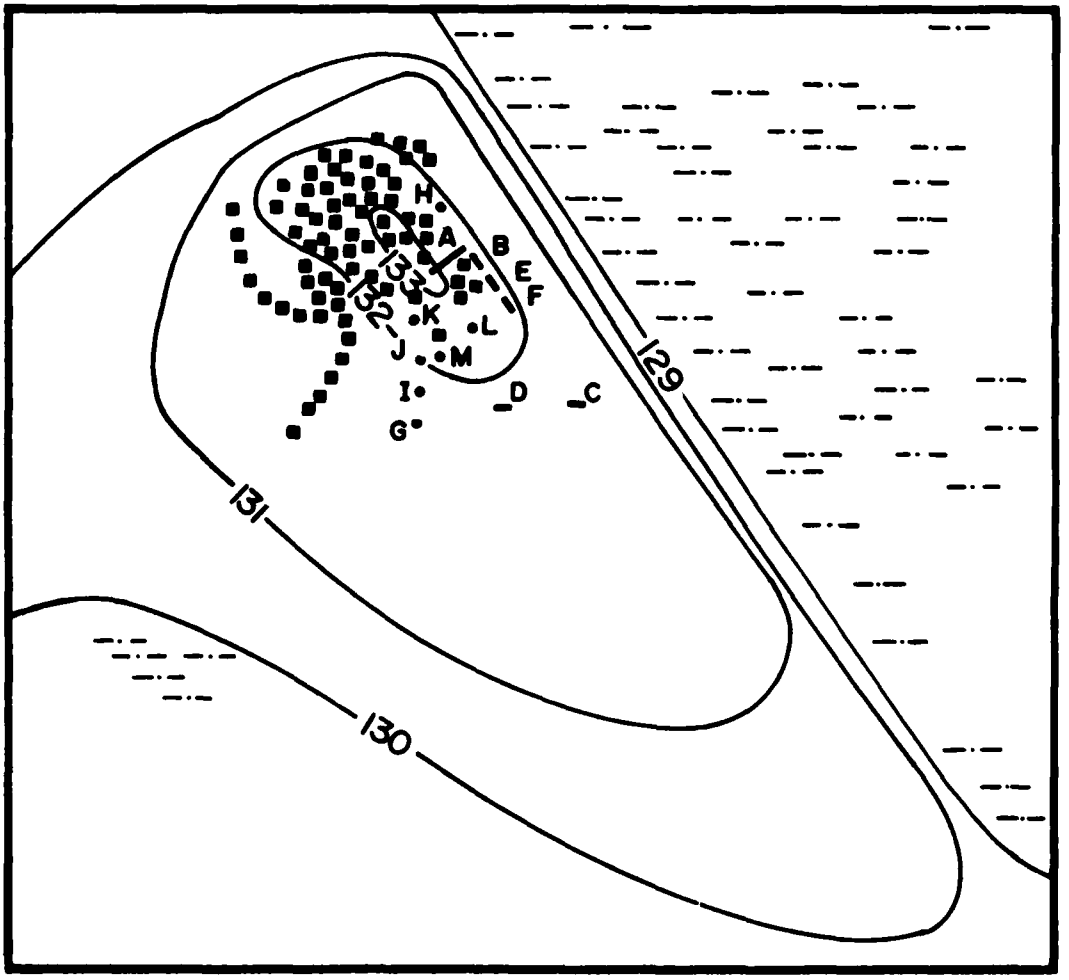


FIGURE 12. EXCAVATIONS AT 22Ts734.

TABLE X. CULTURAL MATERIAL RECOVERED FROM 22Ts734.

	100N 100E	80N 100E	10N 100E	40N 100E	140N 100E	70N 90E	Plow-zone Spoil	QUADRANTS I	II	III	IV
Chopper		1			1		1				
Unstemmed Biface Roughout	3	10	1	1	4	3	20	5	4	1	
Preform/Knife	3	1		2		1	1				
Projectile Point					3				1		
Knife/Point Fragment	4	4		2	2	2	8		5		
Drill/Drill Fragment							2				
Notched Biface							1	1	1		
Unstemmed Uniface Roughout						1					
Uniface Knife/Point Fragment							2				
Side Scraper on Flake	5	8	1	2	9		20	12	5	4	1
Side/End Scraper					3						
End Scraper	2	2		1			2				
Denticulate Flake							2	1			
Notched Flake				1	3		2		2		
Graver							1				
Graver/Scraper							6				
Microtool		1			1						
Discoidal Scraper								1	1		
Debitage	653	730	117	172	816	472	673	403	305	57	8
Hammerstone	1				1	1	3		2		



30 0 30

SCALE : METERS

—N—

-·- MUD, STANDING WATER

• POTHOLE

ELEVATION IN METERS ABOVE M.S.L.

A-F TEST TRENCHES, G-M TEST SQUARES

FIGURE 13. EXCAVATIONS AT 22T506.

PHOTOGRAPH 3. RECENT PLUNDERER'S TRENCH, 22Ts506.

PHOTOGRAPH 4. TYPICAL PROFILE AT 22Ts506. DISTURBED MIDDEN OVERBURDEN, AND STERILE SANDY CLAY BENEATH.

TABLE XI. CULTURAL MATERIAL RECOVERED FROM 22Ts506.

Chopper	7
Unstemmed Biface Roughout	48
Preform/Knife	28
Projectile Point	29
Knife/Point Fragment	80
Drill/Drill Fragment	13
Unstemmed Uniface Roughout	1
Side Scraper on Flake	56
Debitage	7440
Hammerstone	30
Tishomingo Plain	7
Baldwin Plain	4
Saltillo Fabric Impressed	34
Alexander Incised	1
Thomas Plain	75
Tishomingo Corkmarked	64
Wheeler Plain	1
Unknown Shell Tempered	1

disturbed nature of the site. Following completion of the field phase, an on-site meeting between the Field Investigator and the archaeologist assigned to the Nashville District was held, and it was agreed that further expension of effort would prove useless.

22Ts553 (Yellow Dog) and 22Ts554 (Black Mud), Figure 14. The Yellow Dog and Black Mud sites are located on the eastern side of Yellow Creek on the first terrace at an elevation of 131.67 meters above sea level. The sites are separated by a shallow swale. 22Ts553 is a large site, following the contour of the terrace for a distance of 300 meters with the debris distribution extending back about 30 meters from the edge of the terrace. 22Ts554 is much smaller, measuring approximately 40 meters along the terrace edge. At the time of excavation, 22Ts553 had been planted in soybeans in the western four-fifths, and in cotton in the eastern one-fifth. Both crops had been harvested, and the topsoil contained very few weeds. The northern site, 22Ts554, had lain fallow for at least a season, and was covered in weeds and grass. Both sites were flanked by floodwaters along their western boundaries. The soil on both sites consisted of a topsoil layer of friable grayish brown loam. Both sites had been subjected to intense cultivation for as long as local informants could recall. The sub-soil consisted of a dark brownish-red clay which is not described in the soil survey handbook (Orvedal and Fowlkes 1944).

Both sites were walked and no surface artifactual material was present. Test pits A and B were excavated to the base of the plowzone to determine the plowzone thickness. Approximately 50% of each site was stripped of plowzone. No underlying features were present. The plowzone spoil yielded a few lithic artifacts, Table XII.

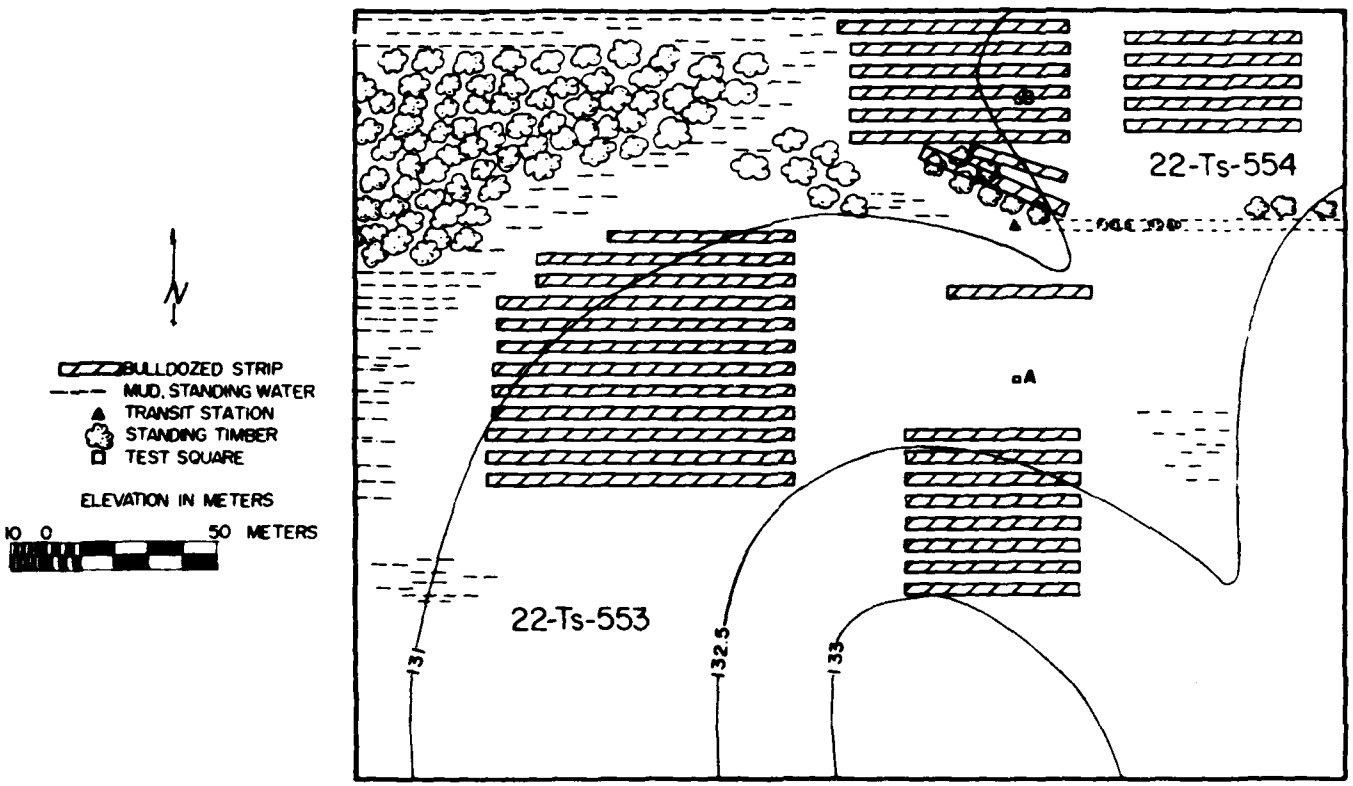


FIGURE 14. EXCAVATIONS AT 22Ts553, 22Ts554.

TABLE XII. CULTURAL MATERIAL RECOVERED FROM 22Ts553 AND 22Ts554.

	553	554
Unstemmed Biface Roughout	2	3
Preform/Knife	1	2
Projectile Point	1	
Knife/Point Fragment	3	1
Uniface Knife/Point Fragment	1	
Side Scraper on Flake	8	5
End Scraper		1
Notched Flake		1
Debitage	138	28

CHAPTER 4

DESCRIPTION OF MATERIAL RECOVERED

Introduction

The purpose of this chapter is to describe the material recovered from each site. Each form of tool recovered on any of the eleven sites is represented by a discussion and a photograph. By referring to the applicable table of material recovered as presented in Chapter 3, and to the applicable discussions and photographs in this chapter, a knowledge of the material recovered on any particular site may be gained.

Each description of a tool form is subsumed by one of the following headings:

(1) lithic tools

(2) projectile points

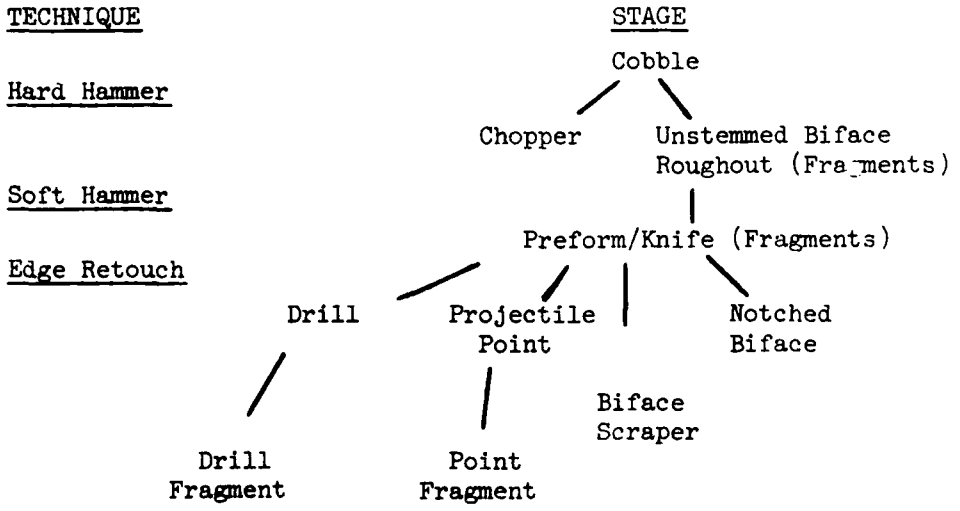
(3) ceramics

Twenty-three lithic tool forms were identified: projectile points and seven other bifacially-worked tool forms, and eleven kinds of unifacially-worked tools, for a total of nineteen chipped stone tool forms. Hammerstones, one ground stone, pitted stones, and one polished stone comprise the remaining four kinds of lithic tools. Although projectile points are obviously lithic tools, they are also frequently time-sensitive indicators and are therefore presented on a site-specific basis under a separate heading. A sample of the remaining twenty-two lithic tool forms and the seven ceramic types is shown and is representative of sites on which these artifacts occur.

Chipped stone tools recovered during this project were manufactured from cobbles of the Tuscaloosa gravel formation. The smooth, water-worn, highly-curved cortices, the highly-variegated chert, and the relatively easy access to the Tuscaloosa formation sum up the circumstantial evidence. Debitage color is distinct from the debitage recovered from the production sites associated with the Yellow Creek Nuclear Power Plant archaeological project. The chert from these latter sites has been positively identified as tabular Ft. Payne (Dr. Jay K. Johnson, personal communication). Cherts taken from the Tuscaloosa gravel formation are highly variable in quality. They range in granular structure from those which have a fine homogeneous grain to those which are coarse and fossiliferous. A single cobble may vary both in color and quality, and variation is even more pronounced among a number of cobbles. Juxtaposited cobbles obtained from an abandoned modern quarry 16 kilometers northwest of Iuka demonstrated the variegation and the variable quality of the Tuscaloosa formation in the local area. These differences among the sample cobbles were comparable to the variation in artifacts recovered from the excavated sites.

The name of a lithic implement is frequently based upon its presumed function. These names are imbedded in archaeological literature, so the same general nomenclature is applied in this report unless a synonym in common usage more properly describes the tool. For example, Blakeman(1976: 50) pointed out that "notched [flake]" conveys more information than does "spokeshave", and is not burdened by a supposed function of which there is no certainty. Names of intermediary lithic forms associated with arbitrarily-defined stages of the lithic reduction sequence are frequently based on morphology. In this project, it was necessary to define the stages of the bifacial reduction sequence on a non-morphological basis because only fragments of forms which represent the earlier stages were recovered, and most of these fragments were quite small. The basis for classification of early and intermediary stages are the attributes associated with the manufacturing process shown in Table XIII. Thus, a fragment exhibiting the deep, swale-like depressions associated with hard-hammer reduction is earlier in the reduction sequence than is a fragment showing the flat-flake removal scars typical of soft-hammer reduction. An edge-retouched fragment is considered to be from a finished tool. When the classification of intermediaries is based upon process, the larger fragments assigned to the same stage of development will demonstrate a marked morphological heterogeneity because of the limitations in the sorting criteria, and perhaps because of the mixing of the cultural contexts in the proveniences of the fragments. As Bradley (1975) has pointed out, a mixed cultural context precludes the sorting of manufacturing intermediaries on a morphological basis, and heterogeneity of form should be expected.

TABLE XIII PROPOSED MANUFACTURING PROCESS FOR *BIFACIALLY-WORKED* CHIPPED STONE TOOLS.



In this report, the term "blank" is avoided altogether and "roughout" is prefaced by "unstemmed" and either "uniface" or "biface", and both represent fragments of tools indicating an early stage of manufacture. A "preform" is considered to be a tool sufficiently refined to serve as a knife (without edge retouch), but if further refined, may serve as a projectile point. It is called a Preform/Knife in this report. The term "projectile point" is generally understood to mean a tool which could have served as a knife, a spearpoint, or an arrow or dart point. All projectile points are distinguished by the presence of a retouched edge, in this report.

The vast majority of the unifacially-chipped tool forms are minimally reworked flakes, most of them side scrapers. The criteria for sorting the various unifacial forms accompany the applicable photographs.

Hammerstones were found on seven sites, pitted stones on three sites. Ground or polished stone tool forms are represented by only two tools recovered from one site. The criteria for sorting accompany the photographs. The lithic tool types are further discussed, and more specifically defined, in the explanations which refer to the photographs. The explanations are aimed at realistic descriptions, which with the applicable photographic representations, adequately describe the tool type found at each site, and provide sufficient justification for the sorting criteria employed.

A total of seven ceramic types were recovered from three sites. Of 219 typable sherds, all were recovered from proveniences disturbed by agriculture or plunder, and were distributed as follows: 22Ts506-186 sherds; 22Ts577-13 sherds; 22Ts777-20 sherds. A fourth site, 22Ts738, yielded a total of 7 badly eroded clay/grit and sand tempered sherds from the plowzone but these could not be assigned to a known type. One shell-tempered sherd from 22Ts506 also could not be identified. Descriptions of each type and pertinent distribution information are included with the photographs of the seven types. Specific ceramic types, and numbers of sherds recovered are included in the applicable tables in the site excavation descriptions in Chapter 3.

Lithic Tools, Photograph 5 through 15.

Bifacially-Worked Tools, Photographs 5 through 8.

Chopper, Photograph 5. Choppers are represented by cobbles which have had two or more large flakes removed bifacially, forming a steep cutting edge, and this edge shows evidence of battering. All of the choppers recovered have a cortical surface opposite, or very nearly opposite the battered cutting edge.

Unstemmed Biface Roughout, Photograph 6. These tools are rather flat and distinguished by deep bulbar flake scars indicative of hard hammer reduction. They exhibit no indication of usage. Examples A through F represent some of the large fragments found, and an attempt has been made to order the fragments in a crude sequence of progressive refinement. Example A is rather amorphous, indicative of an early stage, and B,C, and D are proximal end fragments of a comparable stage, but slightly more re-

fined. Examples E and F exhibit a definite shape in the proximal end fragments, and both fragments are production-error resultants.

Preform/Knife, Photograph 7. These fully-thinned forms are distinguished by flaking scars indicative of soft hammer reduction with no regular edge retouch, although the cutting edge may have been increased in effective length, probably incidental to the thinning process. Proximal end fragments are all unstemmed and distal end fragments are unpointed. They can be dissimilar morphologically, but all appear to be in the same stage of manufacture as evidenced by the degree of thinning.

Knife/Point Fragment (not shown). These are fragments of finished tools, as evidenced by edge retouch. Similar fragments bearing no edge retouch were sorted as Preform/Knife fragments.

Biface Scraper, Photograph 8, Example A. The single biface scraper recovered can only be marginally classified as such. The badly broken specimen was sorted as a scraper because edge retouch continues in an arc around the single undamaged edge.

Drill, Photograph 8, Example B through J. Small fragments as well as whole tools were recovered, and the criteria used for sorting of fragments were generally based upon cross-sectional shape (diamond, triangular, oval or round), width versus thickness (equal or nearly equal), and size of the fragment recovered. Projectile points reworked into drills were sorted as drills.

Notched Biface, Photograph 8, Example K through M. These fragments are distinguished by an arc-shaped indentation on one edge, intentionally placed there by pressure flaking. The tools are fully thinned bifaces of no common overall shape.

Unifacially Worked Tools, Photograph 9 through 12.

Unstemmed Uniface Roughout, Photograph 9, Examples A through D. These are the unifacial counterparts of the Unstemmed Biface Roughout. The dorsal surface of a large flake has been thinned with a hard hammer, producing deep flake scars. The ventral surfaces exhibit little or no thinning as is shown in Examples B and D.

Uniface Knife/Point, Photograph 9, Examples E through G. No fragments of unifacial tools comparable to the bifacial Preform/Knife are in evidence. The fragments which display edge retouch are small and the thinning has been precisely controlled. Example E shows the ventral surface, and Examples F and G the dorsal surface of fragments sorted as Uniface Knife/Point fragments. No specimen recovered displays an intact hafting element, although Example E appears to have been stemmed at one time.

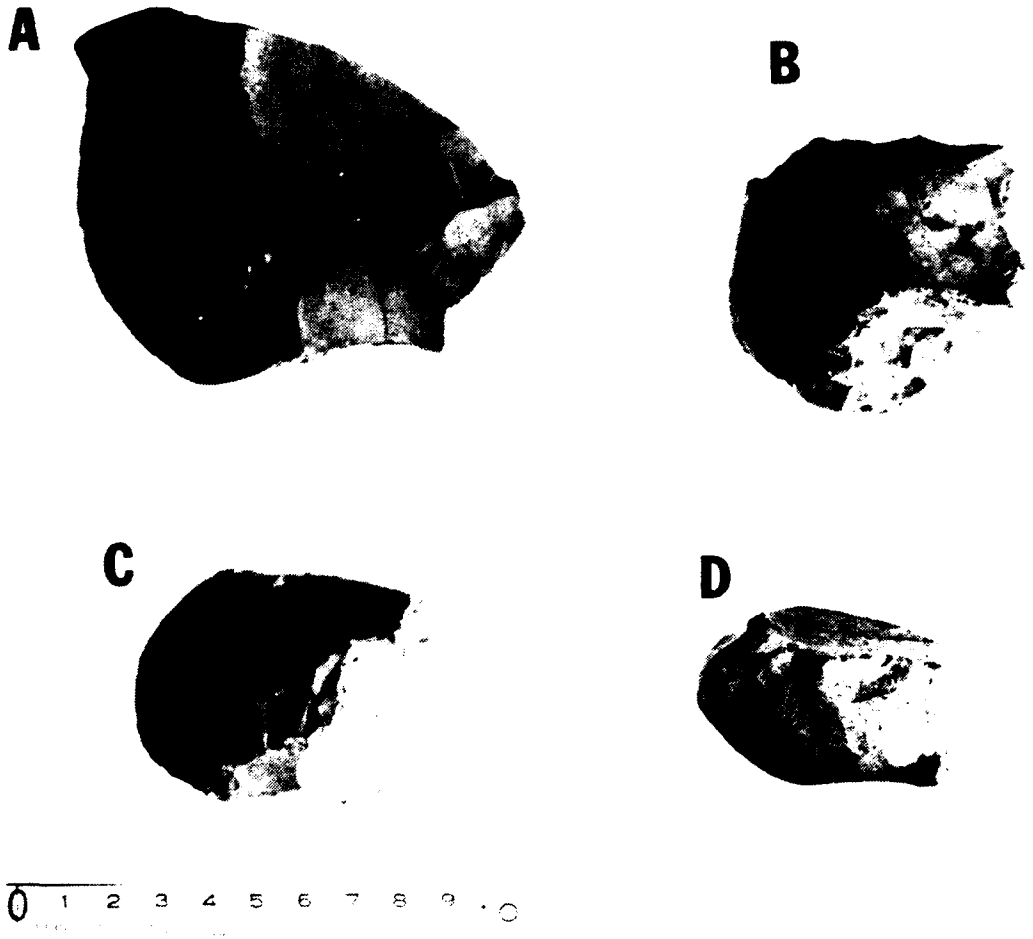
PHOTOGRAPH 5. CHOPPER

A 22Ts777

B 22Ts735

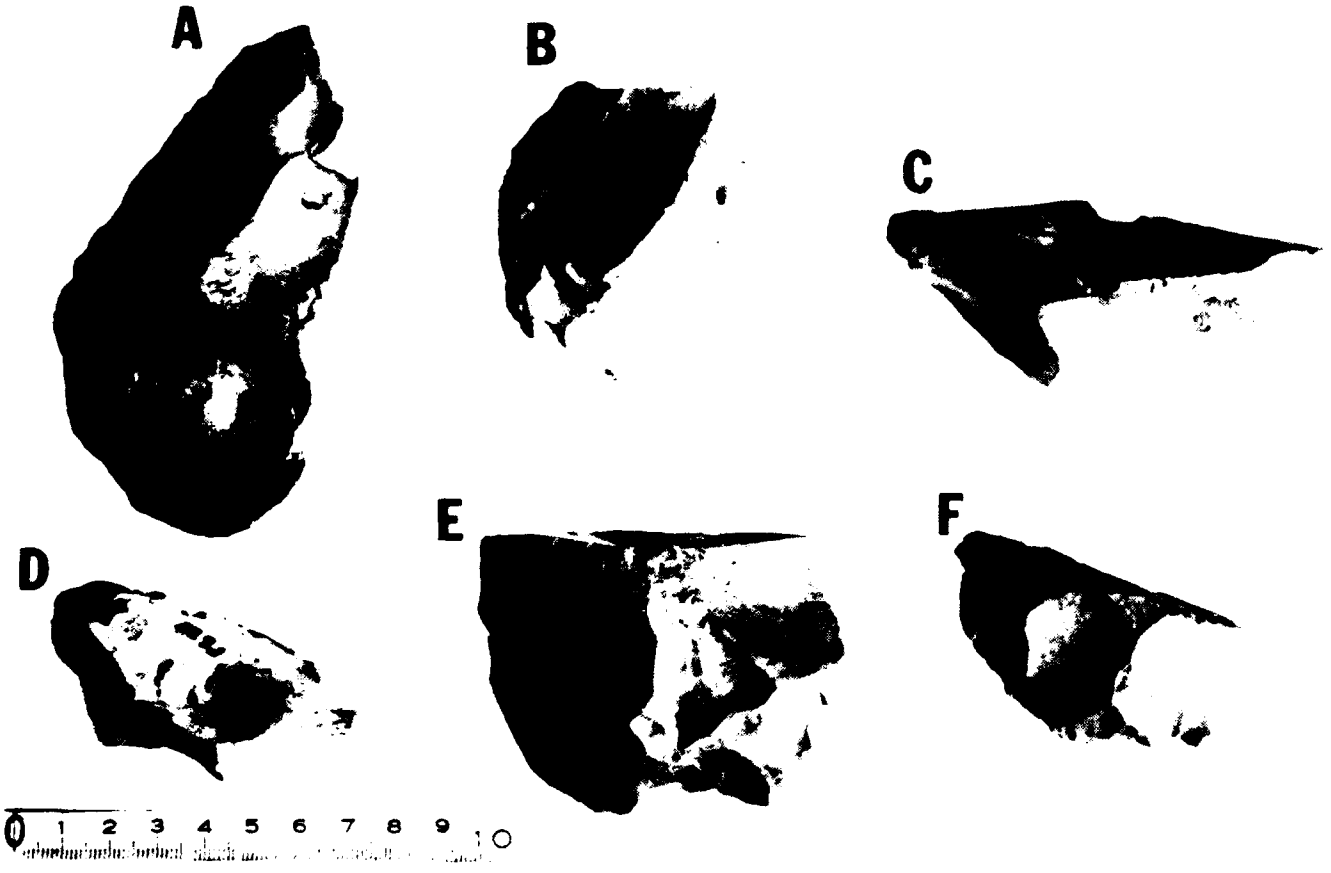
C 22Ts735

D 22Ts577


A
B
C
D
0 1 2 3 4 5 6 7 8 9 10

PHOTOGRAPH 6. UNSTEMMED BIFACE ROUGHOUT

A 22Ts735
B 22Ts738
C 22Ts777
D 22Ts777
E 22Ts735
F 22Ts577


A
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0 1 2 3 4 5 6 7 8 9 10

PHOTOGRAPH 7. PREFORM/KNIFE

A 22Ts506

B 22Ts506

C 22Ts738

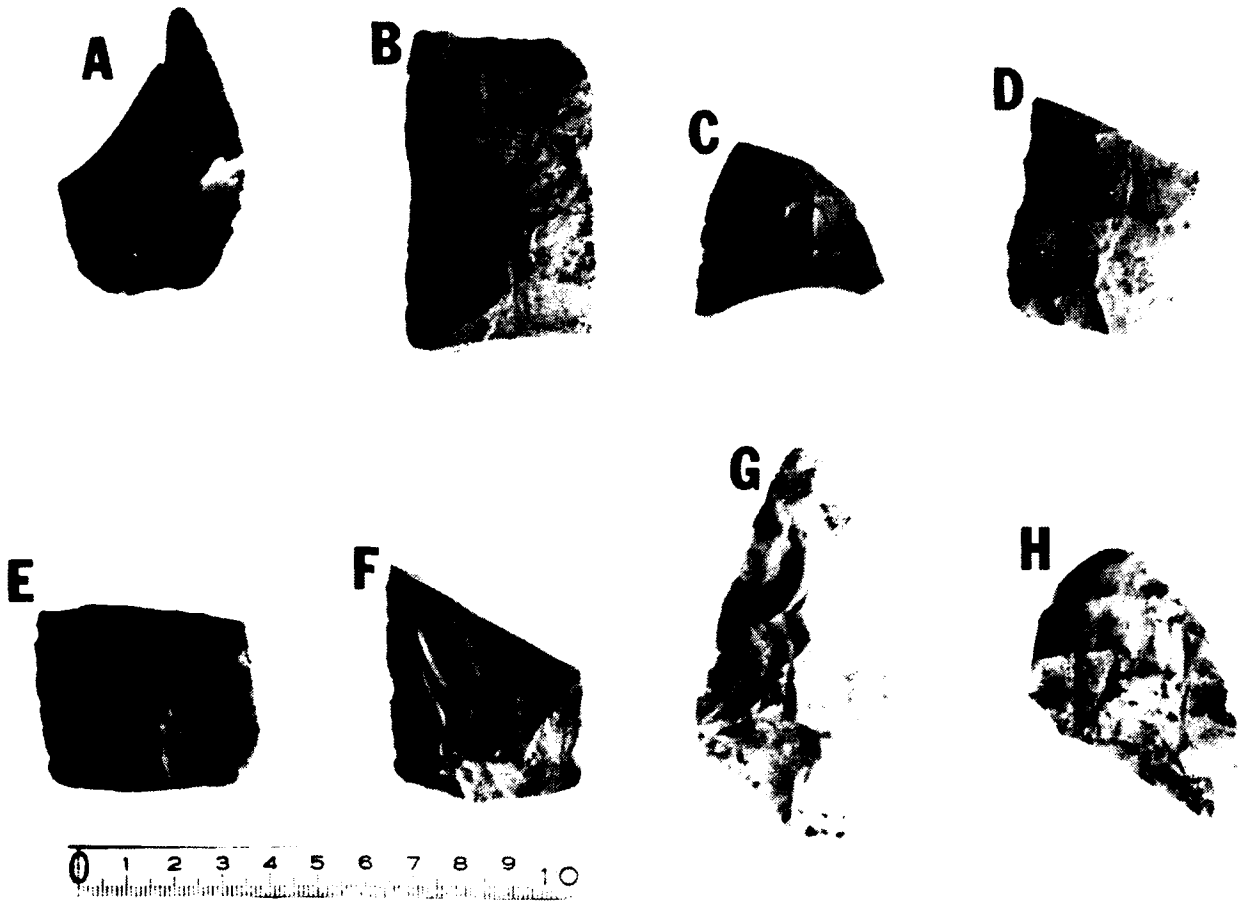
D 22Ts735

E 22Ts735

F 22Ts735

G 22Ts747

H 22Ts506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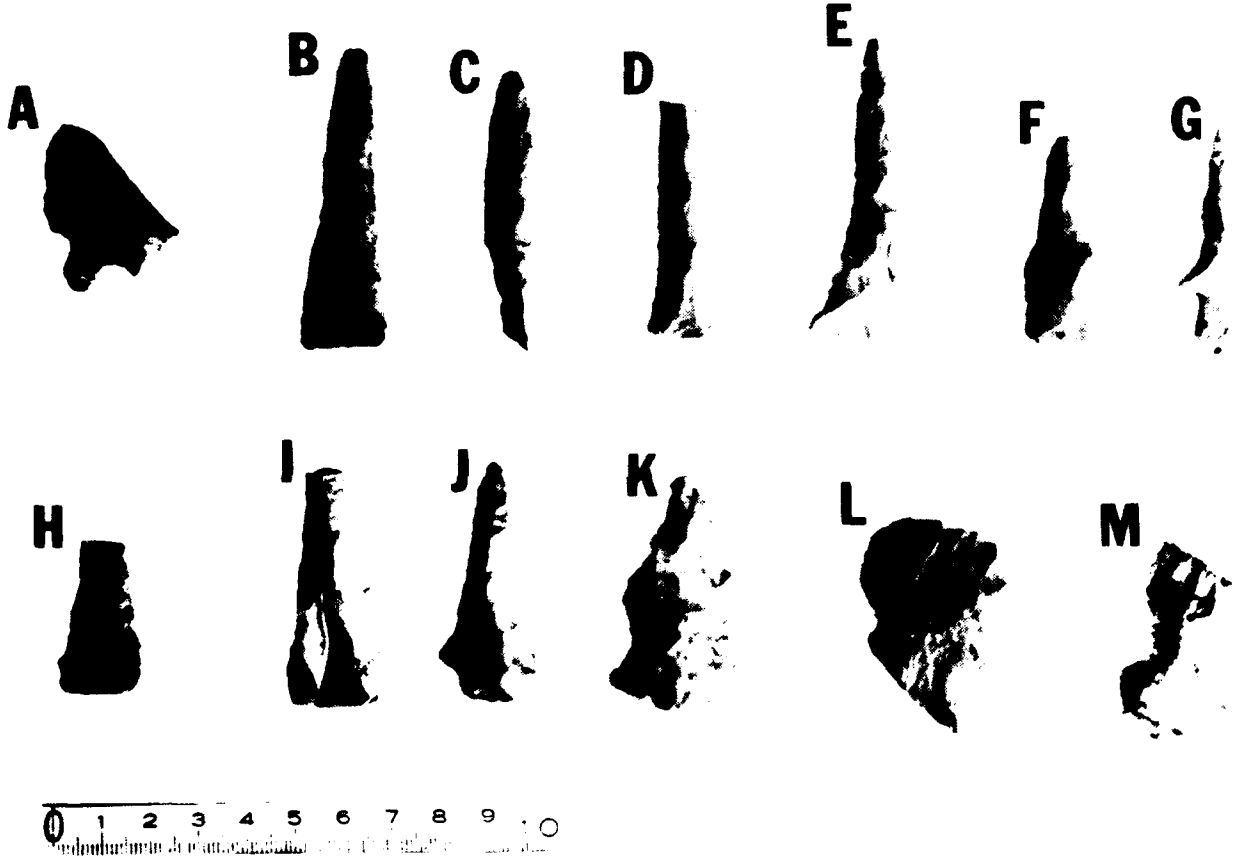
H
0 1 2 3 4 5 6 7 8 9 10

PHOTOGRAPH 8. BIFACE SCRAPER, DRILL, NOTCHED BIFACE

A	22Ts735	H	22Ts735
B	22Ts506	I	22Ts738
C	22Ts735	J	22Ts735
D	22Ts738	K	22Ts734
E	22Ts734	L	22Ts734
F	22Ts735	M	22Ts734
G	22Ts577		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K
L
M
0 1 2 3 4 5 6 7 8 9 10

PHOTOGRAPH 9. UNSTEMMED UNIFAC. ROUGHOUT, UNIFACE KNIFE/POINT

A 22Ts735

B 22Ts777

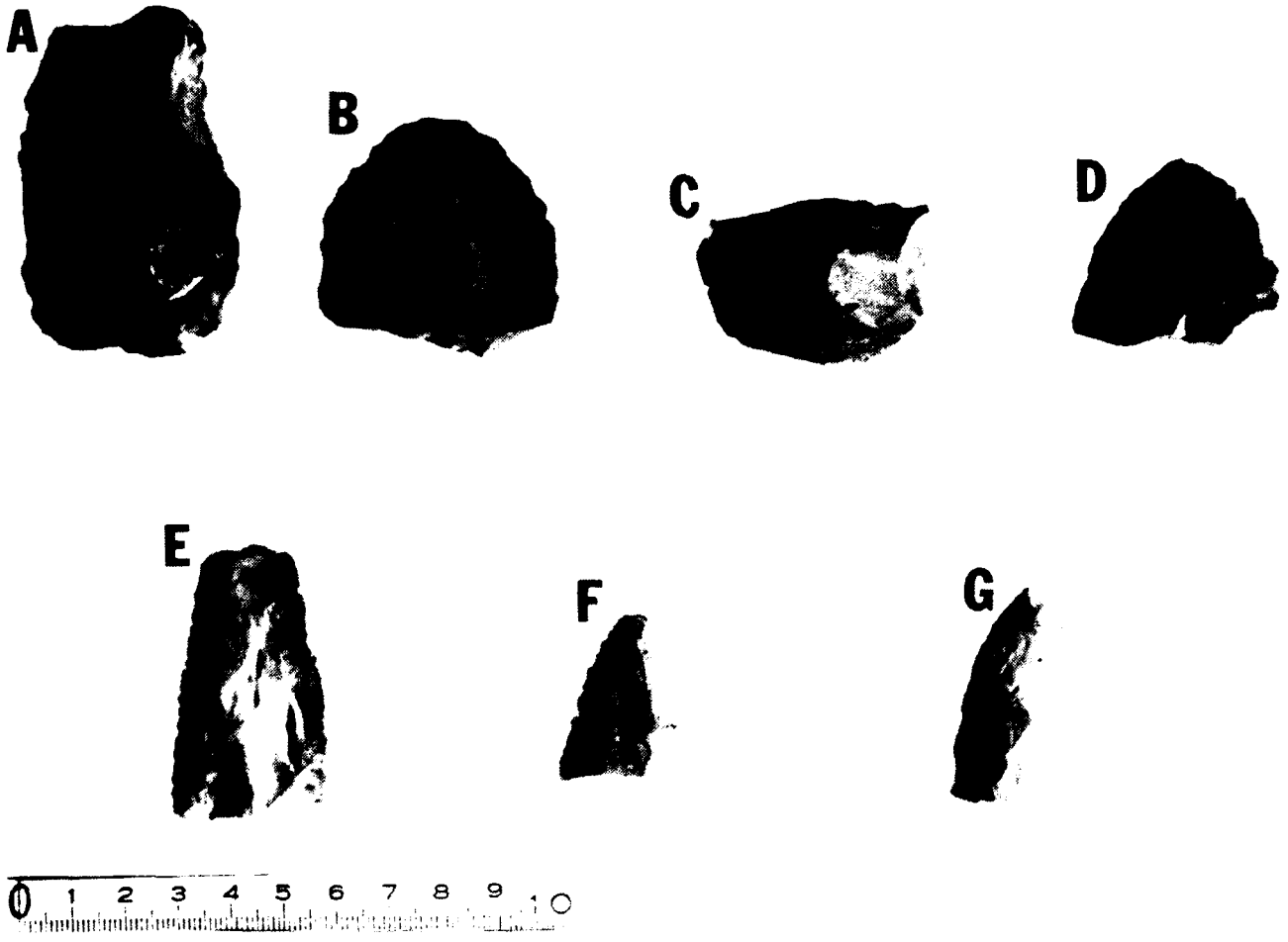
C 22Ts734

D 22Ts735

E 22Ts777

F 22Ts777

G 22Ts735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F
G
0 1 2 3 4 5 6 7 8 9 10

Side Scraper (on flake), Photograph 10. These tools have one definitive morphological characteristic: the lateral edge of a flake has been intentionally retouched by pressure flaking. The edge is fairly steeply flaked, producing a jagged, shallow edge.

End Scraper (on flake), Photograph 11, Examples A through C. The End Scrapers are identical to the side scrapers except that an edge distal to the bulb of percussion has been pressure flaked.

Side/End Scraper (on flake), Photograph 11, Examples D through F. The Side/End Scrapers exhibit steep retouch on both the side and the end of the flake.

Notched Flake, Photograph 11, Examples G through I. These tools are flakes which exhibit an arc-shaped notch on one side, a result of pressure flake removal.

Denticulate Flake, Photograph 11, Example J. These flakes have several notches at regular intervals along the edge.

Graver, Photograph 12, Example A. These flakes have been retouched to produce a projection which in turn has been finely retouched.

Graver/Scraper, Photograph 12, Examples B through D. The graver portion of the flake is identical to the Graver above, and the flake has had one or more edges retouched in the manner of a Side Scraper.

Microtool, Photograph 12, Examples E through G. These are quite small, well-worked flake tools. Each fragment recovered is not well pointed, and appears too narrow to serve as a scraper. All edges of complete tools display about the same degree of pressure flake removal.

Discoidal Scraper, Photograph 12, Example H and I. Although these tools are not morphologically identical to the "turtleback" scrapers to which the Discoidal Scraper is generally considered synonomous, the few which were recovered were placed in this category for want of a better term. They exhibit very steep retouch around the entire flake periphery, but one specimen is completely covered by cortex on the dorsal surface (Example I). The thickness is much more uniform than the other scraper types and is about 5mm average.

Battered, Pitted, Ground, and Polished Stone Tools, Photographs 13 through 15.

Hammerstone, Photograph 13, Examples A through C. These are spherical or oblate cobbles which exhibit battering marks at one or more locations on the surface usually at no more than two locations which are on opposite sides.

Pitted Stone, Photograph 13, Examples D and E. These are cobbles or flat sandstone chunks in which a cup-like depression has been ground or pecked.

Polished Stone, Photograph 14. The single polished stone fragment recovered in the project may be an atlatl weight fragment or a fragment of a pipe.

Ground Stone, Photograph 15. The single ground stone recovered exhibits a smooth, ground area on an amorphous chunk of sandstone.

Projectile Points, Photographs 16 through 23.

22Ts777, Photograph 16.

Example A is crudely-manufactured point morphologically similar to the Faulkner and McCollough (1973:94) Type 52, which the authors indicate may have been used as a knife. It is also similar to the Dallas Triangular (Lewis and Kneberg 1946:Figure 24). A Late Woodland association is suggested.

Example B is a thick lanceolate stemmed point similar to the Bakers Creek type which was found in a Middle Woodland context in the Copena Complex in Northern Alabama (DeJarnette, Kurjack, and Cambron 1962:47).

Example C is a thick stemmed point with slightly incurvate blade edges. It may be a variant of a Middle-Late Woodland type which is common on sites of the Owl Hollow phase in the upper Elk Valley of eastern Tennessee (Faulkner 1968:244).

Examples D and E are similar to the Kays (Kneberg 1956), the Carrollton (Ford and Webb 1956:55), and Type 101 (Faulkner and McCollough 1973:120). A Late Archaic association is indicated.

Example F is an unknown type, possibly a smaller variant of the Sykes (Lewis and Lewis 1961:40) which was included in Type 114 by Faulkner and McCollough (1973:128). If this association is accurate, a Middle to Late Archaic cultural context is suggested.

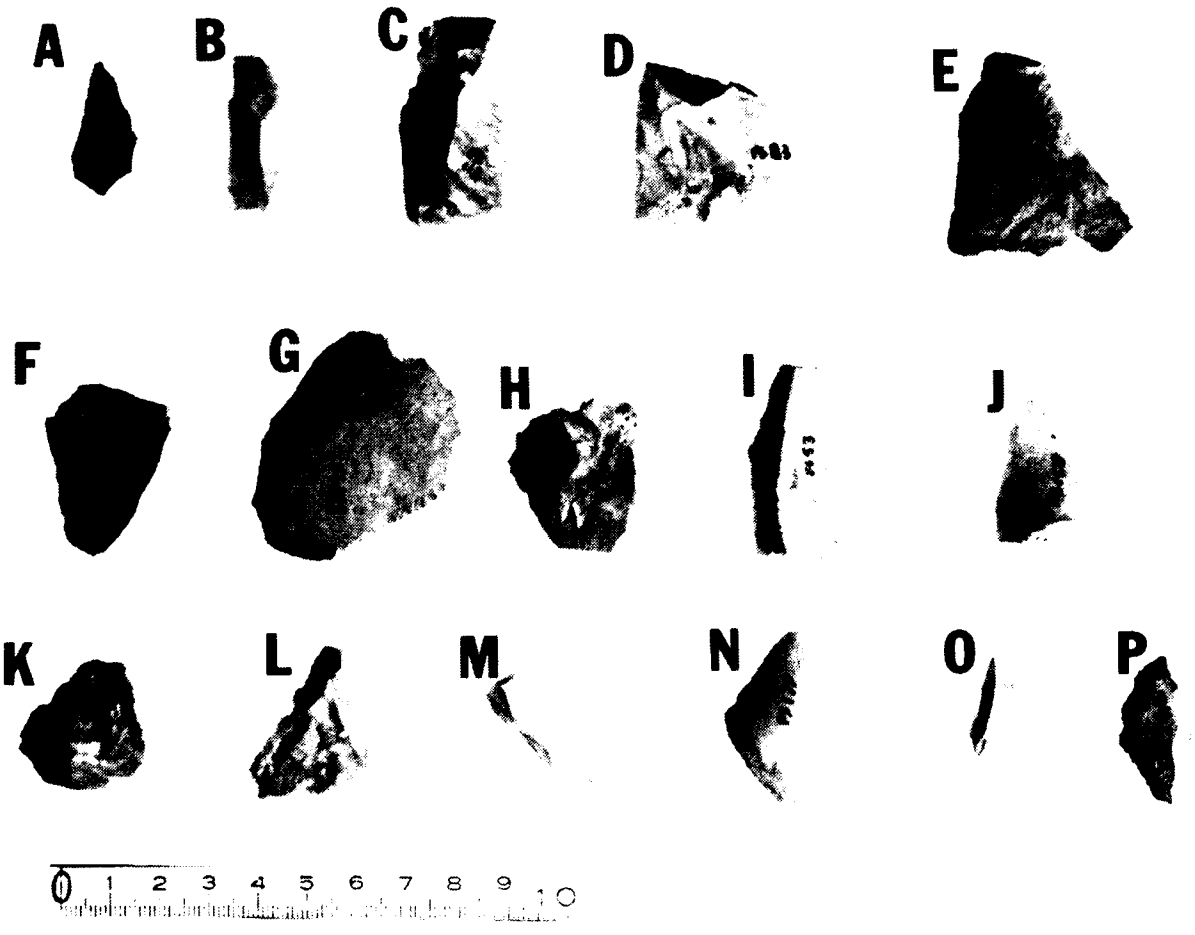
Examples G and H are quite like the Pickwick type which is a marker for the Late Archaic in the Tennessee Valley (DeJarnette, Kurjack, and Cambron 1962:66).

Example I is a wide-stemmed point like the White Springs type found in a Middle to Late Archaic association at the Stanfield-Worley Bluff Shelter (DeJarnette, Kurjack, and Cambron 1962:70).

Example J is difficult to type on the basis of the single broken specimen because only one side displays true notching. The point is similar to the undifferentiated side notched points (Lewis and Lewis 1961:37) which occurred frequently in the Three Mile component at the Eva site in Benton Co., Tennessee. The point appears to be a Middle to Late Archaic tool.

PHOTOGRAPH 10. SIDE SCRAPER ON FLAKE

A	22Ts577	I	22Ts577
B	22Ts747	J	22Ts738
C	22Ts735	K	22Ts577
D	22Ts735	L	22Ts738
E	22Ts734	M	22Ts735
F	22Ts747	N	22Ts738
G	22Ts738	O	22Ts577
H	22Ts769	P	22Ts577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L
M
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O
P
0 1 2 3 4 5 6 7 8 9 10

PHOTOGRAPH 11. END SCRAPER, SIDE/END SCRAPER, NOTCHED FLAKE, DENTICULATE FLAKE

A	22Ts734	F	22Ts734
B	22Ts577	G	22Ts777
C	22Ts734	H	22Ts777
D	22Ts734	I	22Ts734
E	22Ts734	J	22Ts777


A
B
C
D
E
F
G
H
I
J
0 1 2 3 4 5 6 7 8 9 10

PHOTOGRAPH 12. GRAVER, GRAVER/SCRAPER, MICROTOOL, DISCOIDAL SCRAPER

A 22Ts734

B 22Ts577

C 22Ts735

D 22Ts734

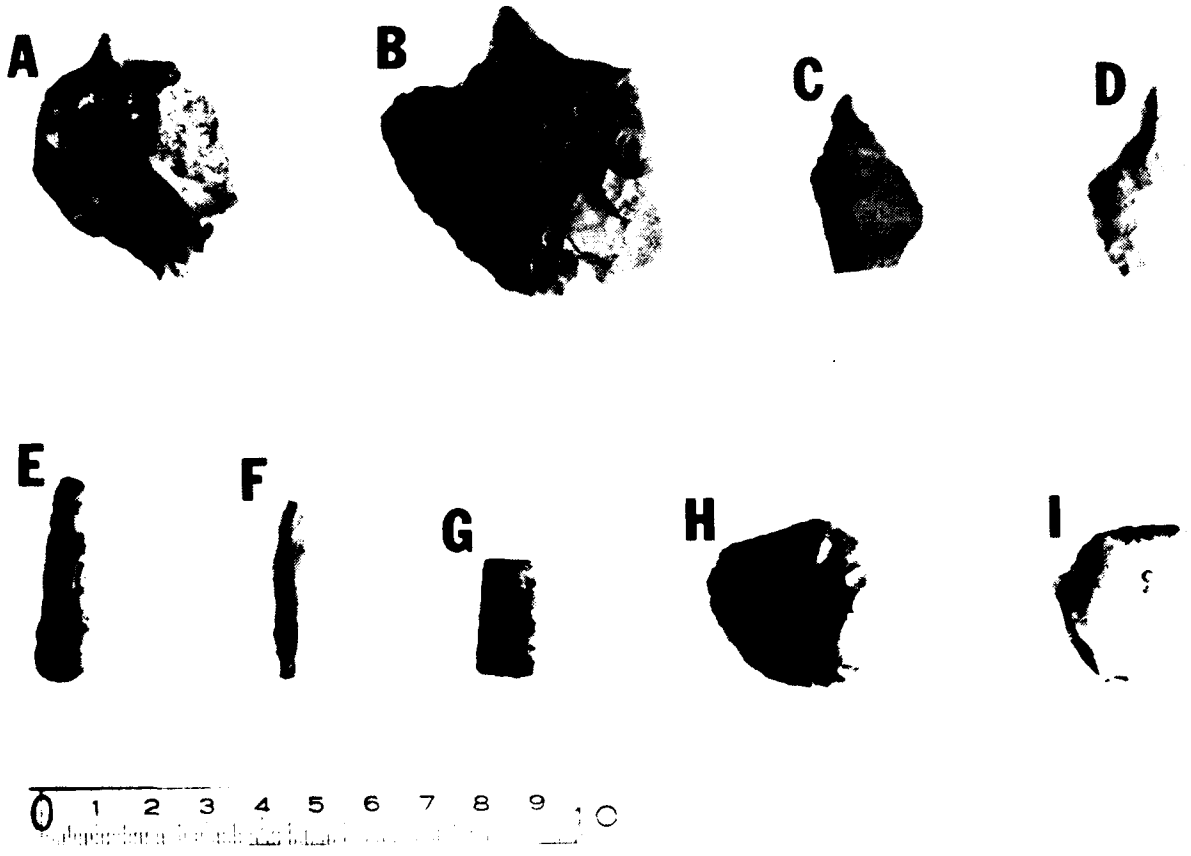
E 22Ts735

F 22Ts735

G 22Ts734

H 22Ts735

I 22Ts734


A
B
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I
0 1 2 3 4 5 6 7 8 9 10

PHOTOGRAPH 13. HAMMERSTONE, PITTED STONE

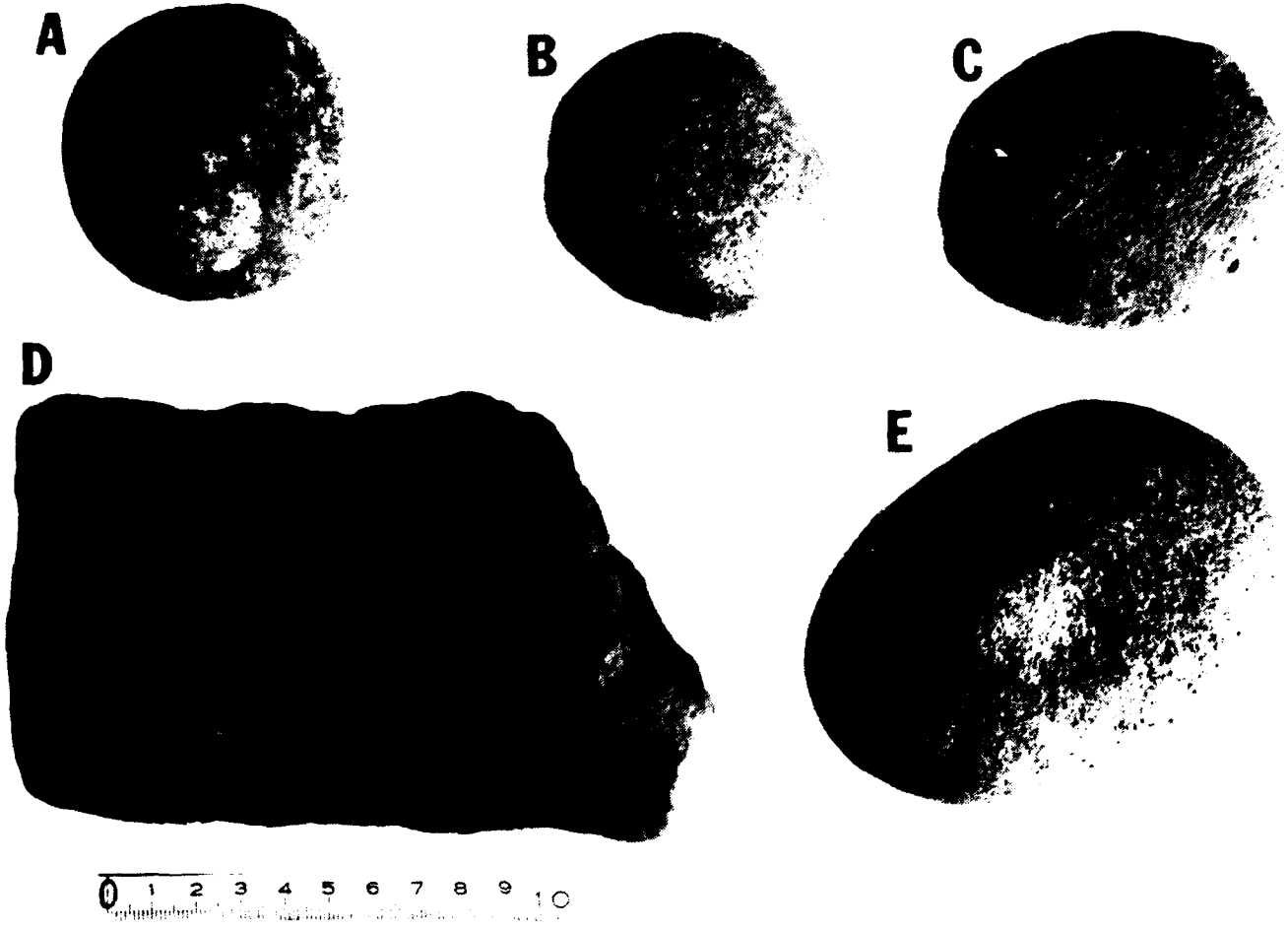
A 22Ts735

B 22Ts747

C 22Ts734

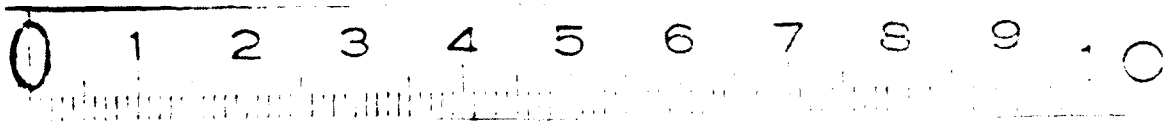
D 22Ts735

E 22Ts735


A
B
C
D
E
0 1 2 3 4 5 6 7 8 9 10

PHOTOGRAPH 14. POLISHED STONE, 22Ts735


F596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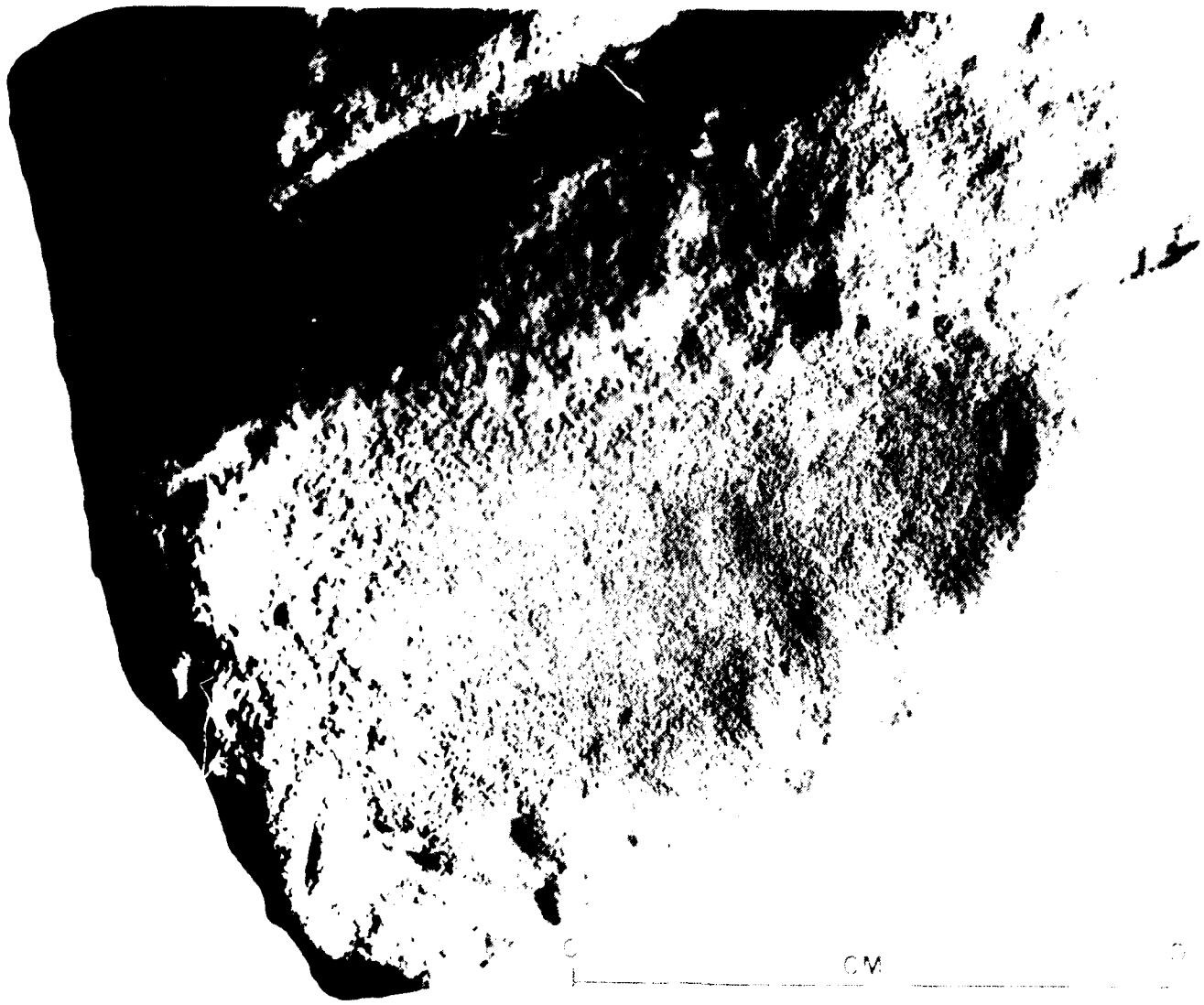
PHOTOGRAPH 15. GROUND STONE, 22Ts735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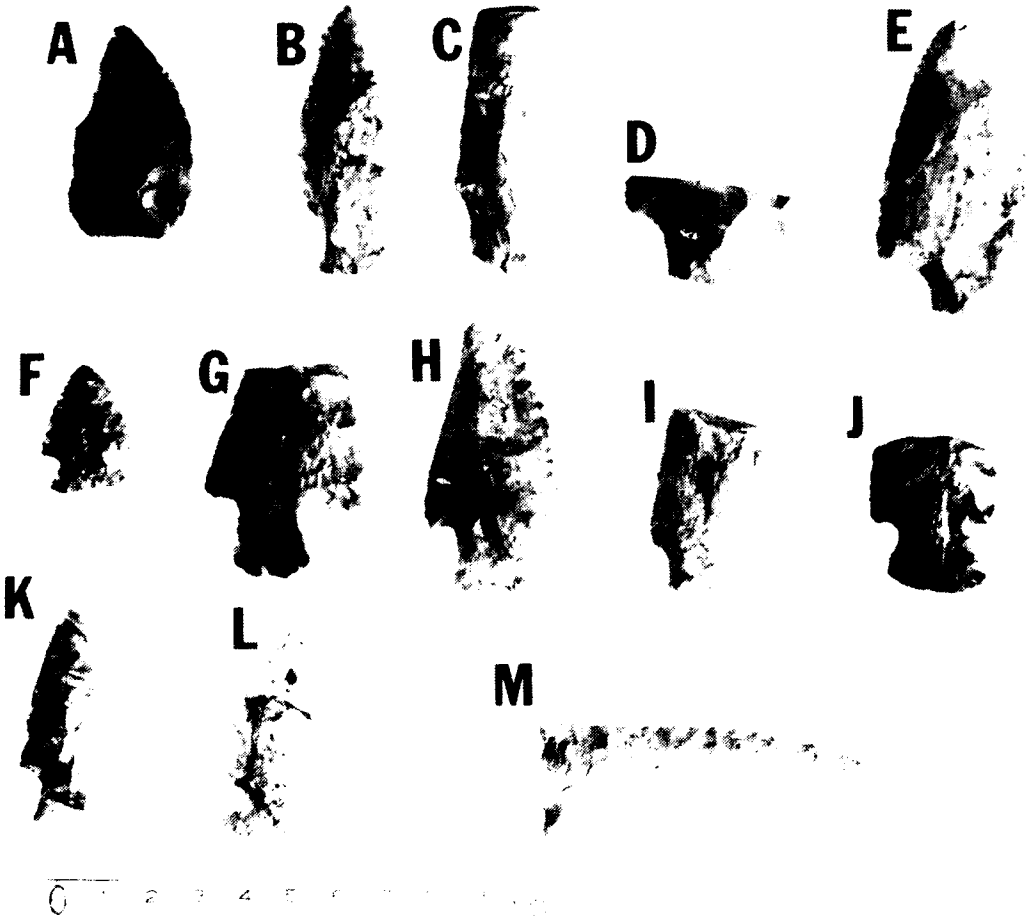
PHOTOGRAPH 16. PROJECTILE POINTS, 22Ts777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Example K is identical to Faulkner and McCollough's (1973:111) generalized Type 84, a catch-all class that includes expanded stem points which appear to be Late Archaic to Early Woodland artifacts.

Example L resembles a hybrid form falling between the Plevna (DeJarnette, Kurjack, and Cambron 1962:66) from northern Alabama and the Kirk Corner Notched (Coe 1964:69) of the North Carolina Piedmont. There is no doubt the point belongs in the Early Archaic Kirk Cluster (Faulkner and McCollough 1973:154).

Example M is probably a Lost Lake type (Cambron and Hulse 1975:83) commonly found in northern Alabama in an Early Archaic context. All of the stem is missing in the only example recovered.

22Ts770, Photograph 17, Example A.

Example A can be identified as a White Springs type (DeJarnette, Kurjack, and Cambron 1962:70) which was found in a Middle to Late Archaic association at the Stanfield-Worley Bluff Shelter. This type is included in Type 113 (Faulkner and McCollough 1973:127) found in the Upper Duck Valley in central Tennessee.

22Ts769, Photograph 17, Examples B through H.

Examples B and C are similar to Faulkner and McCollough's Type 98 (1973:118-119) found in the Upper Duck Valley. The authors suggest a Late Archaic to Early Woodland cultural context, but the true cultural affiliation is unknown.

Example D is typologically unknown. The stem is missing and the straight edges are finely serrated. The blade resembles the type Smithsonia (Cambron and Hulse 1975:115) found in a Late Archaic to Early Woodland context in Lauderdale Co., Alabama.

Examples E and F are small, flat, quite thin points (3mm average). The stem is missing from Example E. Both resemble the Jacks Reef Corner Notched found in a Woodland context in New York (Ritchie 1961), Alabama (Cambron and Hulse 1975:68), and Tennessee (Faulkner and McCollough 1973:106).

Example G is a typological unknown. The point is unique because the blade forms a right triangle, and probably served as a knife.

Example H is unknown. The blade appears to be unusually long and thick but with a finely serrated edge. It probably was employed as a knife.

22Ts577, Photograph 17, Examples I through T, Photograph 18, Examples A through H.

Examples I through T.

Example I appears to be a Pickwick type suggestive of a Late Archaic context (DeJarnette, Kurjack, and Cambron 1962:68).

Example J has been tentatively identified with Faulkner and McCollough's (1973:94) Type 52 found in the Upper Duck Valley, but the production-error break in the blade indicates the tool could be an intermediary in the final stage of manufacture.

Examples K and L can be assigned to Faulkner and McCollough's (1973:118) Type 98 found in the Upper Duck Valley. The cultural affiliation is unknown, but the authors suggest a Late Archaic to Early Woodland context.

Example M does not conform to a known type. It is possibly a variant of an unnamed type common in Middle to Late Woodland contexts on sites of the Owl Hollow phase in the Upper Elk Valley of eastern Tennessee (Faulkner 1968:244).

Examples N, O, P, and Q are badly broken and only the proximal ends remain. Based on stem characteristics, they could be the remains of a type similar to the undifferentiated straight stem type found at the Eva site in Middle to Late Archaic cultural context (Lewis and Lewis 1961:33).

Examples R and S are badly fragmented but appear to be the remains of the type Sykes (Lewis and Lewis 1961:40) found in abundance in a Middle to Late Archaic context at the Eva site. The points resemble Faulkner and McCollough's (1973:128) Type 114 found in the Upper Duck Valley in central Tennessee, which type in turn most closely resembles the Sykes type.

Example T is unknown but may be a crude variant of a type in Faulkner and McCollough's Hamilton Cluster (1973:143). The size of the point suggests a Late Woodland context.

Photograph 18, Examples A through H.

Example A is difficult to type because it is a definite four-sided figure, with only one side representing a pentagonal form. It most closely resembles Faulkner and McCollough's (1973:210) Type 48 in both size and shape. The authors suggest a Middle to Late Woodland cultural context for this type in the Upper Duck Valley.

Example B is a well-resharpened asymmetrical stemmed knife similar to Faulkner and McCollough's (1973:124) Type 107 found in the Upper Duck Valley in Tennessee. The authors suggest a Late Archaic context for this implement.

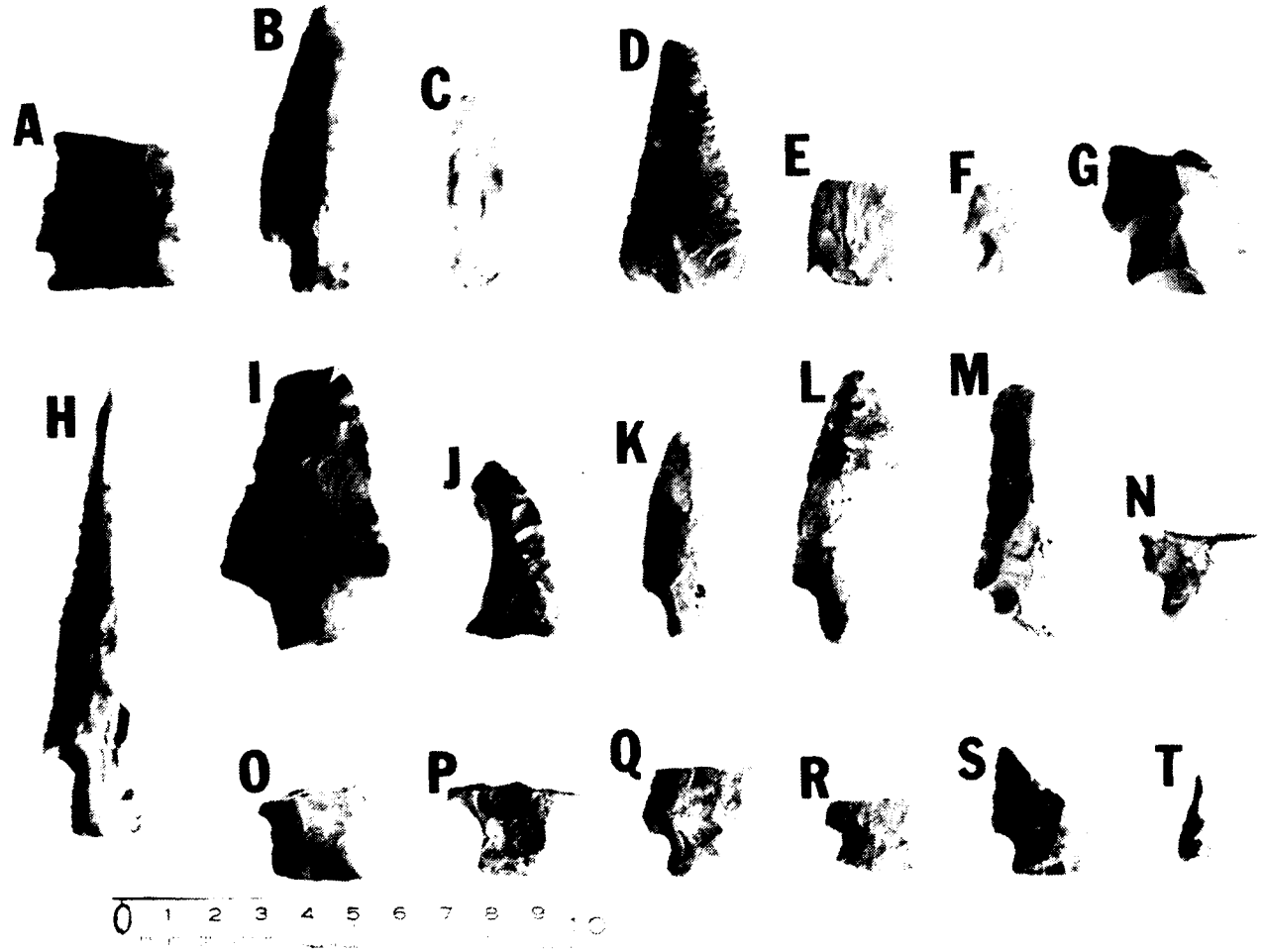
Examples C, D, and E represent the spectrum of Benton Stemmed (Kneberg 1956) types recovered at 22Ts557. Example C is barely classifiable as such, while there is little doubt about Example E. The typical remaining fragments

PHOTOGRAPH 17. PROJECTILE POINTS

A 22Ts770

B-H 22Ts769

I-T 22Ts577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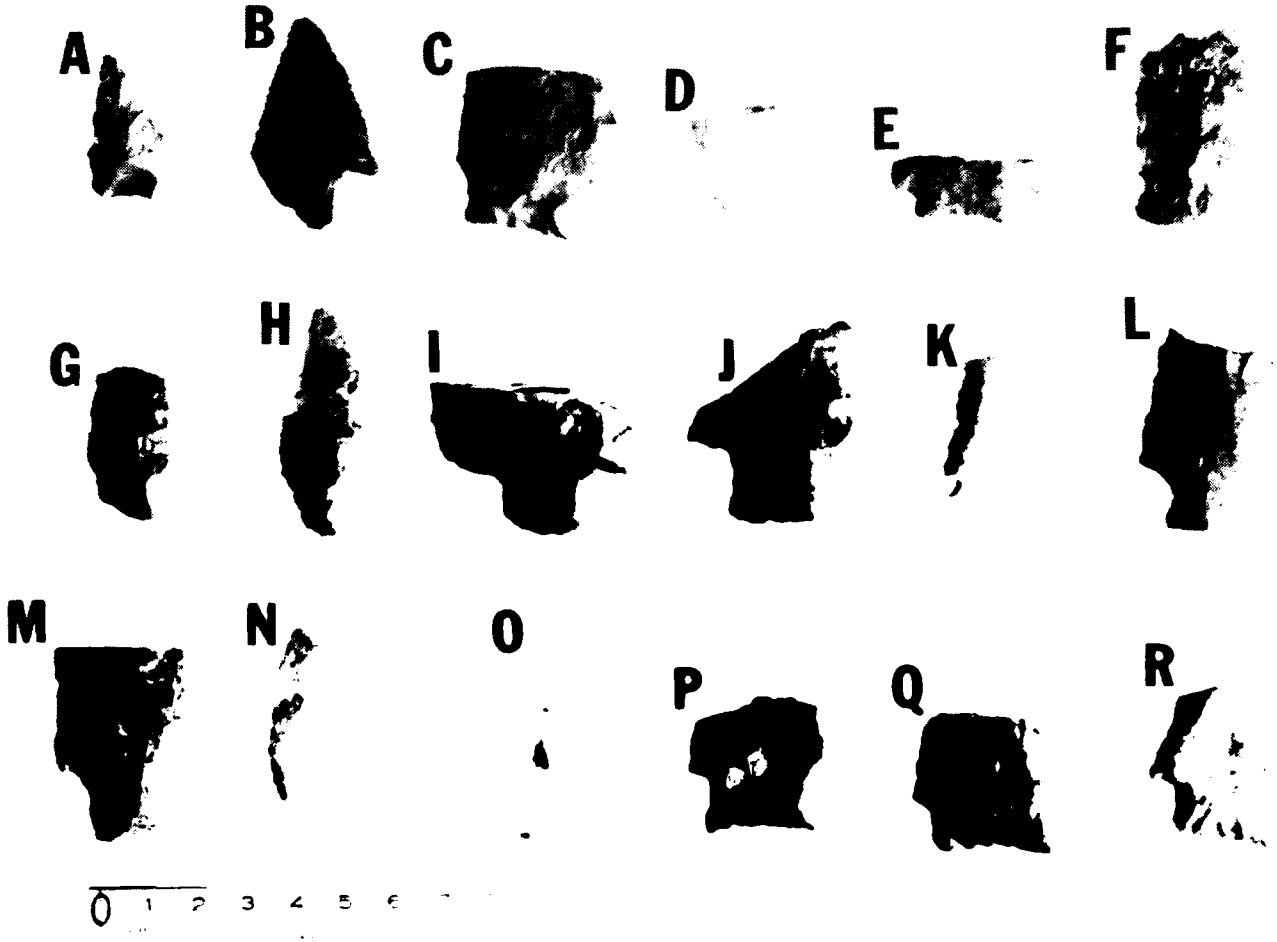
PHOTOGRAPH 18. PROJECTILE POINTS

A-H 22Ts577

I-N 22Ts747

O-R 22Ts738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at this site are represented by Example D. Sorting was based upon the short, beveled stem. A Middle to Late Archaic association is indicated.

Example F is a very crude, thick, shallow-stemmed point which by definition falls into Faulkner and McCollough's (1973:99) Type 60 a Middle to Late Woodland type found in the Upper Duck Valley and the Upper Elk Valley of Tennessee; however, the point does not closely resemble the specimens presented in the authors' photograph (Faulkner and McCollough 1973: 220).

Example G and H are representative forms of the shallow side-notched and stemmed narrow thick lanceolate points which fall in the Expanded Stem Cluster "associated with the Middle to Late Woodland occupation of the Upper Duck Valley" (Faulkner and McCollough 1973:100).

22Ts747, Photograph 18, Examples I through N.

Examples I and J are asymmetrical stemmed knives similar to Faulkner and McCollough's Type 107 found in the Upper Duck Valley in central Tennessee. A Late Archaic cultural context is suggested (Faulkner and McCollough 1973:124).

Example K resembles the Mountain Fork type found in a Middle to Late Woodland context in Northern Alabama (Cambron and Hulse 1975:93) and Type 74 found in the same association in the Upper Duck Valley of western Tennessee (Faulkner and McCollough 1973:106).

Example L and M are similar to points associated with Faulkner and McCollough's Lanceolate Expanded Stem Cluster, suggesting a Woodland association (Faulkner and McCollough 1973:145).

Example N is most similar to Type 52 (Faulkner and McCollough 1973:94) found in a Woodland context, but the fracture of the distal end is a production error, indicating that this example may be an intermediary in the late stages of manufacture.

22Ts738, Photograph 18, Examples O through R, Photograph 19, Examples A through G.

Photograph 18, Examples O through R.

Example O is a type similar to Type 98 which has not been found in a definitive cultural association. The authors suggest a Late Archaic to Early Woodland context (Faulkner and McCollough 1973:119).

Examples P, Q, and R, all proximal ends, represent the Benton Stemmed types found in Tennessee (Kneberg 1956, Faulkner and McCollough 1973:118) and northern Alabama (Webb and DeJarnette 1948). A Middle to Late Archaic cultural context is suggested.

Photograph 19, Examples A through G.

Examples A, B, and C are asymmetrical stemmed knives which resemble Type 107 found in the Upper Duck Valley in a suggested cultural context of Late Archaic (Faulkner and McCollough 1973:124).

Example D is similar to Type 54 which was included in the McFarland Cluster in a Middle Woodland association (Faulkner and McCollough 1973:95).

Example E is similar to the Pickwick type of the Tennessee Valley where it is a Late Archaic marker in the Tennessee drainage system (DeJarnette, Kurjack, and Cambron 1962:66), and resembles types occuring in the Ledbetter Cluster in the Upper Duck Valley of central Tennessee (Faulkner and McCollough 1973:151).

Example F resembles the Bakers Creek type from northern Alabama (DeJarnette, Kurjack, and Cambron 1962:47) and Type 66 of the Upper Duck Valley (Faulkner and McCollough 1973:102). An Early Woodland cultural context is suggested.

Example G has been tentatively sorted as similar to Type 101 (Faulkner and McCollough 1973:120), but not enough of the blade remains to make a definite statement of the type. A Late Archaic context is indicated for Type 101 (op. cit. 120-121).

22Ts735 Zone 1, Photograph 19, Examples H through Q, Photograph 20.

Photograph 19, Examples H through Q.

Examples H, I, and J are probably Late Archaic or Early Woodland points. The stem is not as straight as the undifferentiated straight stem which reached a peak occurrence at the Eva site in the Later Archaic (Lewis and Lewis 1961:33), nor quite as expanded as Faulkner and McCollough's Type 84 which the authors suggest is a Late Archaic or Woodland type (1973:111).

Examples K, L, and M are badly broken specimens which resemble Type 101 found in the Upper Duck Valley in central Tennessee, and are suggestive of a Late Archaic association (Faulkner and McCollough 1973:121).

Example N is a very crude badly-broken specimen resembling Type 109 which the authors suggest may be a Late Archaic type (Faulkner and McCollough 1973:125).

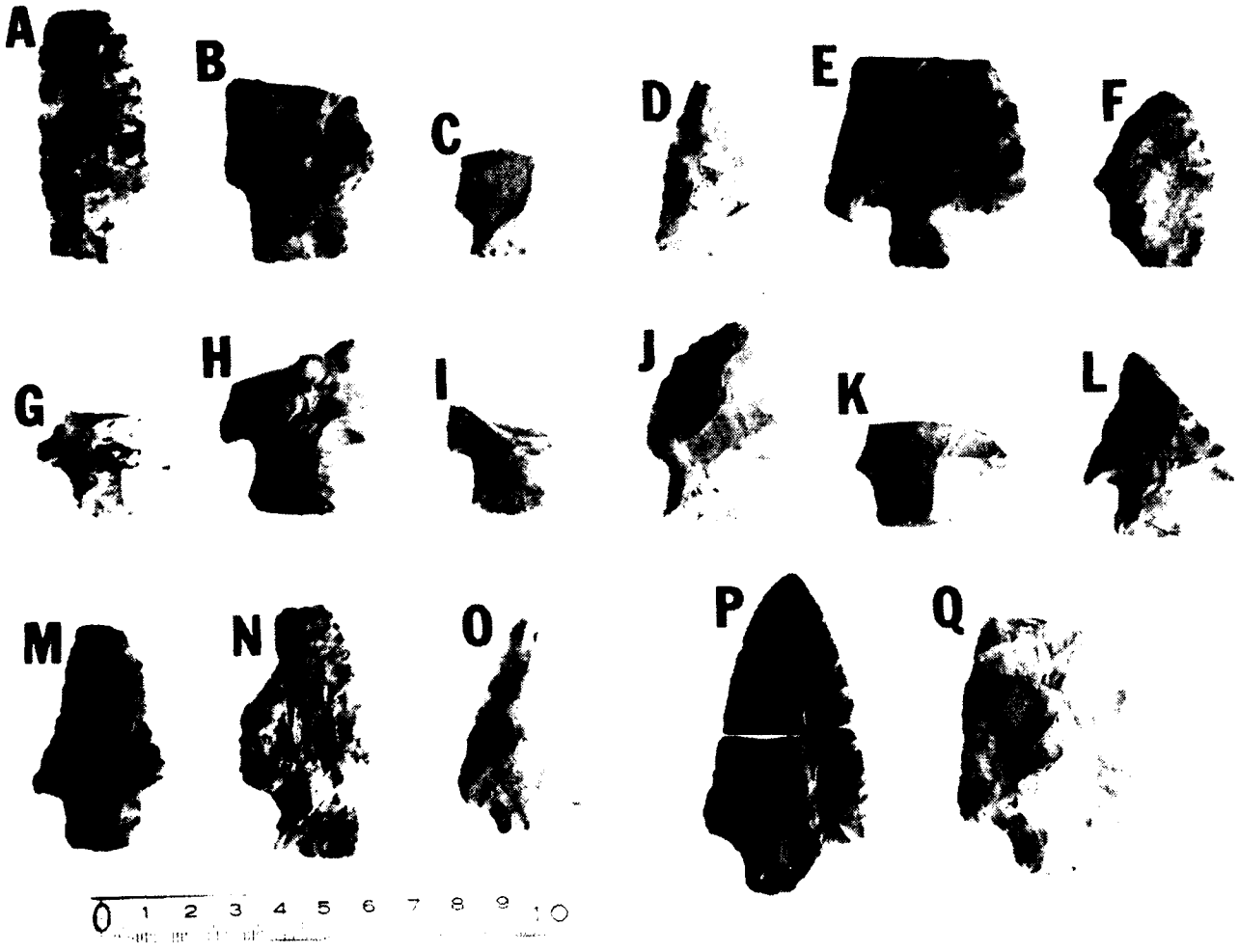
Example O is a Morrow Mountain type (Coe 1964:37) similar to Type 116 found in the Upper Duck Valley (Faulkner and McCollough 1973:129) and identical to the Morrow Mountain I type found at the Eva site (Lewis and Lewis 1961:39, specimen C). A Middle Archaic associaton is suggested.

Examples P and Q fall into the Ledbetter Cluster which may have lasted from the Late Archaic through the Early Woodland cultural periods in the Upper Duck Valley. Both examples resemble Type 103 (Faulkner and McCollough 1973:121,151).

PHOTOGRAPH 19. PROJECTILE POINTS, ZONE 1.

A-G 22Ts738

H-Q 22Ts735, Zone 1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Photograph 20, Examples A through Q.

Example A matches no known type, but the physical characteristics of this badly-broken specimen resemble the description of Type 113, i.e., "medium-large corner-removed, wide-stemmed" (Faulkner and McCollough 1973:127). If the point is typed in accordance with these criteria, a Middle Archaic association is suggested.

Examples B, C, and D are Benton Stemmed types common at the Eva site in western Tennessee (Lewis and Lewis 1961:34), and the Stanfield-Worley Bluff Shelter in northern Alabama (DeJarnette, Kurjack, and Cambron 1962: 47) and the Upper Duck Valley in central Tennessee (Faulkner and McCollough 1973:118). A Middle to Late Archaic association is indicated.

Example E is similar to Type 113 found in the Upper Duck Valley and indicates a Middle Archaic association (Faulkner and McCollough 1973:127-128.).

Example F is badly damaged at the stem base and on one side of the blade. In overall form, it resembles Type 97 found in the Upper Duck Valley (Faulkner and McCollough 1973:118), a Benton Stemmed analog, but the distinctive beveled base has been destroyed. A Middle to Late Archaic association may be indicated.

Example G is analogous to the undifferentiated narrow stem occurring most frequently in a Later Archaic association at the Eva site in western Tennessee (Lewis and Lewis 1961:33).

Examples H and I are both too badly fragmented for accurate identification. The medium-shallow side notching is suggestive of the undifferentiated side notched type located at the Eva site (Lewis and Lewis 1961:37), but they also resemble some of the Type 62 specimens found in a Woodland context in the Upper Duck Valley (Faulkner and McCollough 1973:100). The preponderance of Archaic points found in Zone 1 would indicate that these examples are Late Archaic to Early Woodland artifacts.

Examples J and K are extremely crude points of unknown type. They have been tentatively sorted as Type 76 but may fit into Type 84 as well, a catch-all category for undifferentiated expanded stemmed points in the Upper Duck Valley in central Tennessee (Faulkner and McCollough 1973:107, 111).

Example L is fragmented along one side in such a manner that one shoulder and part of the stem is missing. The slightly rounded stem is suggestive of Types 89-95 in the Rounded Base Cluster of the Upper Duck Valley (Faulkner and McCollough 1973:150), but the stem is much shorter than any specimen shown in that cluster. The overall form resembles the points typed as Morrow Mountain I at the Eva site in western Tennessee (Lewis and Lewis 1961:37). The point suggests an Archaic association.

Examples M and N can be typed as Eva II points in spite of their fragmented condition. This type is associated with the Three Mile component of the Eva Site in western Tennessee (Lewis and Lewis 1961:40). A Middle Archaic cultural context is indicated.

Examples O, P, and Q have been lumped together as unknown types. Example O may be a manufacturing intermediary. Example P exhibits bisection along an incipient fracture plane which runs nearly parallel with the flat face of the blade. Example Q is thick, narrow, with a large straight stem and serrated blade edge. It is possibly a variant of the Kirk series of serrated points found in the North Carolina Piedmont (Coe 1964:69) and northern Alabama (DeJarnette, Kurjack, and Cambron 1962:59).

22Ts735 Zone 2, Photograph 21, Examples A through C

Example A appears to have been repaired on one side of the short expanded stem. The point is similar to the Sykes type found in a Middle to Late Archaic Association in western Tennessee at the Eva site (Lewis and Lewis 1961:41-43) and resembles the points associated with the White Springs-Sykes Cluster in the Upper Duck Valley (Faulkner and McCollough 1973:152-153). A Middle to Late Archaic context is suggested.

Example B resembles the Kays type which has been found in a Middle t Late Archaic context in Henry Co., Tennessee (Kneberg 1956) and a Late Archaic association at Flint River in northern Alabama (Webb and DeJarnette 1948).

Example C is similar to a general class of medium undifferentiated expanded-stem narrow blade points called Type 84 by Faulkner and McCollough (1973:111). The authors suggest a Late Archaic to Early Woodland association. The cortex remaining on the stem and the flaking characteristics of the blade suggest an association with the McIntire type described by Cambron and Hulse (1975:86), which the authors indicate to be a Middle to Late Archaic point type.

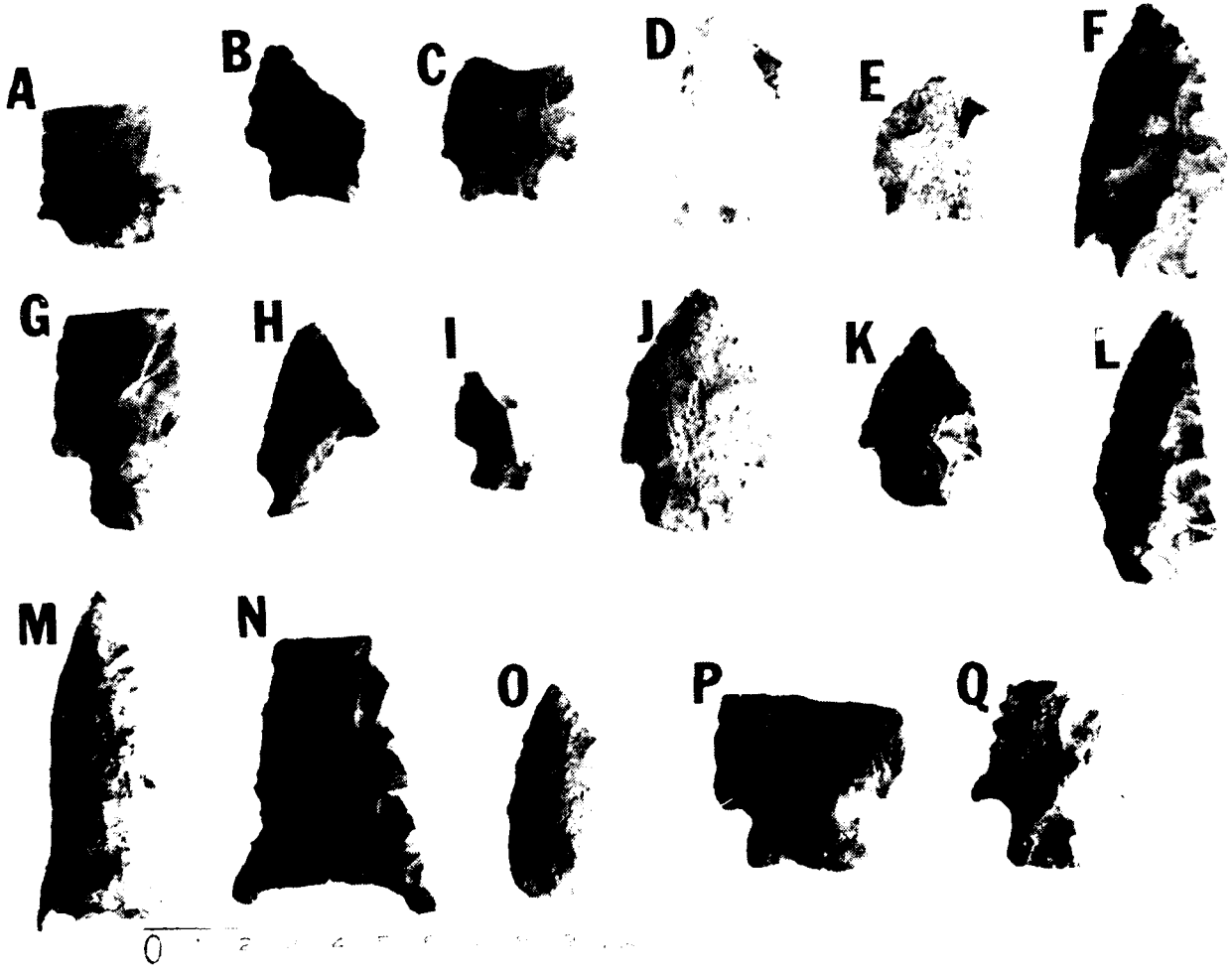
Example D is an unknown expanded stem point with a narrow elongated blade. It has been tentatively sorted in the Type 84 category found in the Upper Duck Valley (Faulkner and McCollough 1973:111).

Examples E and F are badly broken but the proximal ends are similar to Type 101 found in the Upper Duck Valley (Faulkner and McCollough 1973: 120-121). A Late Archaic association is suggested.

Examples G and H are Benton types found in frequent occurrence in the Big Sandy component of the Eva site in western Tennessee (Lewis and Lewis 1961:34). A Middle to Late Archaic context is indicated.

Examples I, J, and K are badly fractured. The proximal end of one specimen (Example J) suggests a relationship to the White-Springs-Sykes Cluster in the Upper Duck Valley (Faulkner and McCollough 1973:152-153). If the suggested relationship is correct, a Middle to Late Archaic context is suggested.

PHOTOGRAPH 20. PROJECTILE POINTS, 22Ts735, ZONE 1.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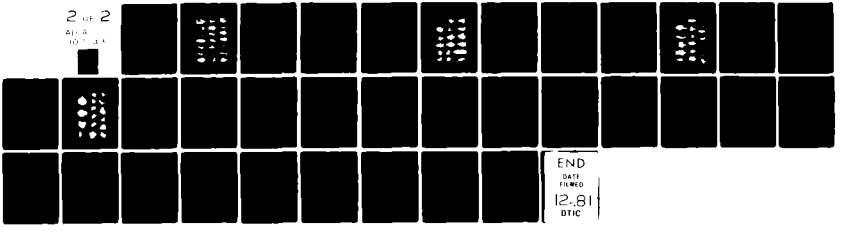

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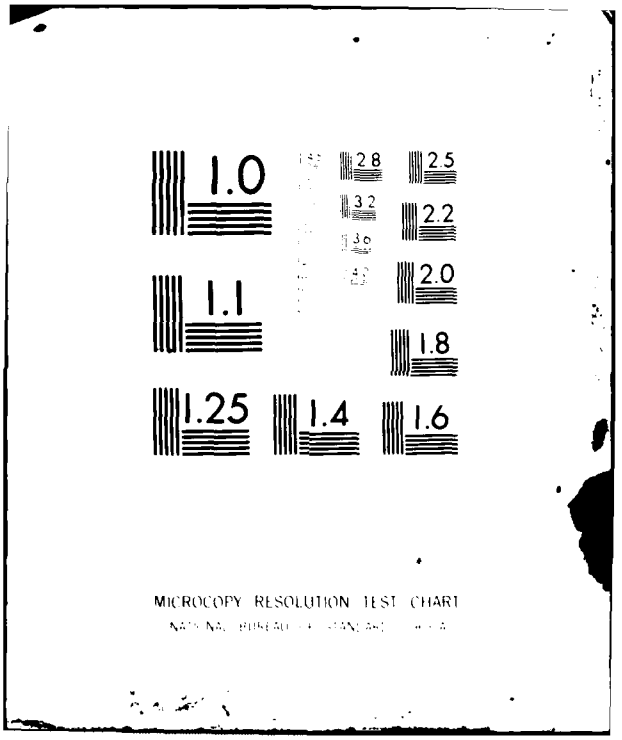
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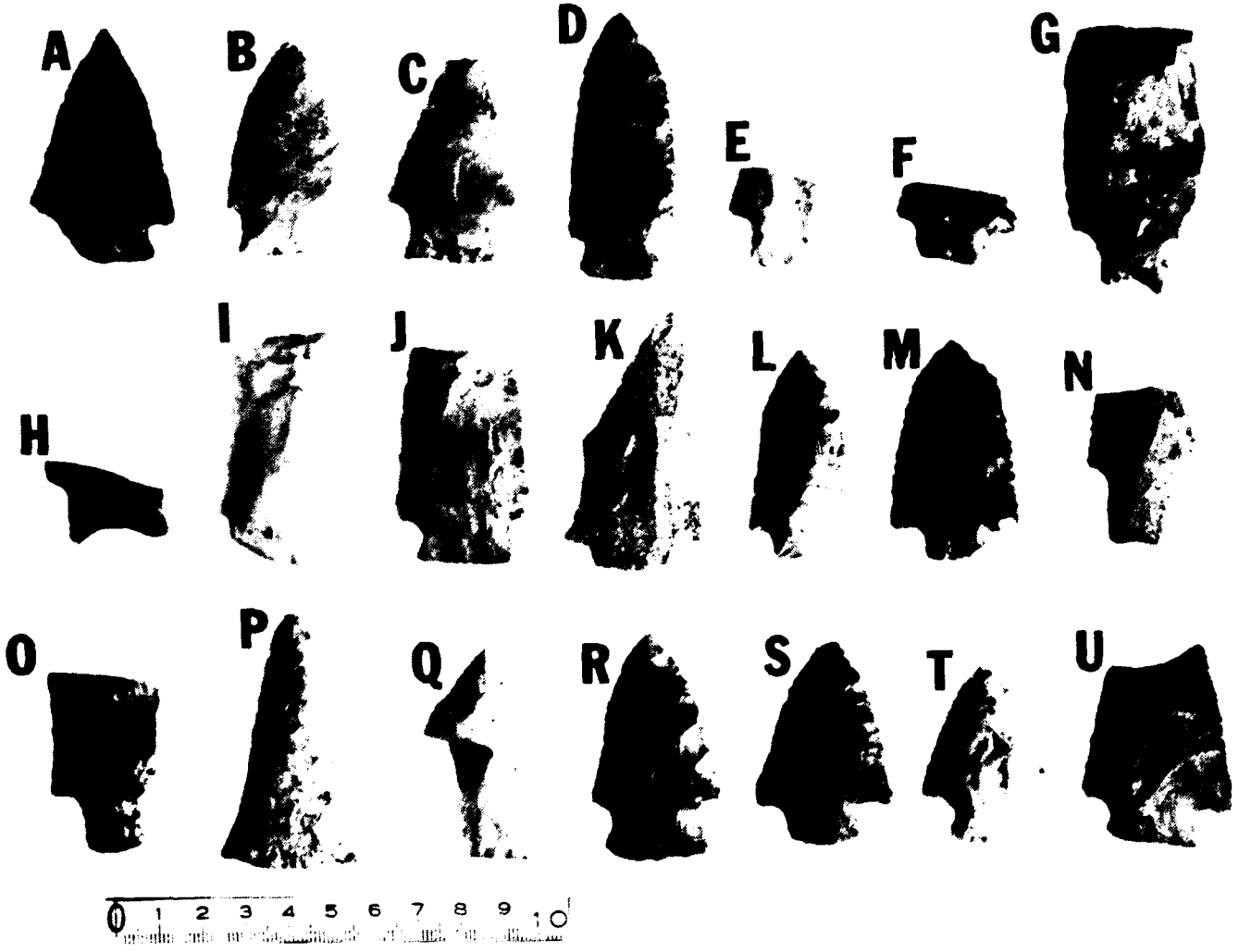
PHOTOGRAPH 21. PROJECTILE POINTS, 22Ts735, ZONES 2 AND 3.

A-O 22Ts735, Zone 2

P-U 22Ts735, Zone 3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Examples L and M resemble the Morrow Mountain I type found in the Three Mile component at the Eva site in western Tennessee (Lewis and Lewis 1961:37), and appear to belong to the Morrow Mountain - Eva Cluster in the Upper Duck Valley in central Tennessee. A Middle Archaic context is suggested (Faulkner and McCollough 1973:153).

Examples N and O resemble the undifferentiated narrow stem type found in the Three Mile and Big Sandy components at the Eva site in western Tennessee (Lewis and Lewis 1961:33). A Middle to Late Archaic association is indicated.

22Ts735 Zone 3, Photograph 21, Examples P through U, Photograph 22, Examples A through D.

Photograph 21, Examples P through U.

Examples P and Q are both unknown types which are possibly manufacturing intermediaries, however the fracture in Example Q does not resemble a manufacturing error. Both examples are patinated, suggesting great antiquity.

Examples R, S, and T resemble the McIntire Points described by Cambron and Hulse (1975:86) and points found in association with shell middens along the Tennessee River (Webb and DeJarnette 1942).

Example U is discussed below.

Photograph 22, Examples A through D.

Examples A and B and Example U from above appear to belong in the White Springs-Sykes Cluster of the Upper Duck Valley in central Tennessee (Faulkner and McCollough 1973:127, Type 112). A Middle to Late Archaic context is indicated.

Example C appears related to either the Beacon Island and Motley types described by Cambron and Hulse (1975:9,92), but has features distinctive of both. The point appears to be Late Archaic in association.

Example D resembles the undifferentiated straight stem type which reached a peak in the Big Sandy Phase of the Eva site in western Tennessee (Lewis and Lewis 1961:33-34). A Late Archaic association is indicated.

22Ts734, Photograph 22, Examples E through H.

Example E resembles the Category 22 type found in an Early Archaic context at Icehouse Bottom in the Lower Little Tennessee River Valley (Chapman 1977:40).

Example F is badly fragmented but appears to be analogous to the Big Sandy type located in the Three Mile component at the Eva site in western Tennessee (Lewis and Lewis 1961:34-37). An Early to Middle Archaic cultural

context is indicated.

Example G appears related to the Kirk Corner Notched found in northern Alabama (DeJarnette, Kurjack, and Cambron 1962:59) and closely resembles the Category 29 type found at the Icehouse Bottom site in the Lower Little Tennessee River Valley (Chapman 1977:46). An Early Archaic association is indicated.

Example H is a fragment but resembles the Eva type found at the Eva site in western Tennessee (Lewis and Lewis 1961:40), suggesting an Early to Middle Archaic association.

22Ts506, Photograph 22, Examples I through R, Photograph 23, Examples A through S.

Photograph 22, Examples I through R.

Example I is related to the Gary type found at the Stanfield-Worley Bluff Shelter in northern Alabama in a Late Archaic to Early Woodland context (DeJarnette, Kurjack, and Cambron 1962:56) and closely resembles Type 88 found in the Upper Duck Valley in central Tennessee (Faulkner and McCollough 1973:113).

Examples J and K closely resemble the Cotaco Creek type found in northern Alabama (DeJarnette, Kurjack, and Cambron 1962:53) and Type 104 found in the Upper Duck Valley in central Tennessee (Faulkner and McCollough 1973:123). A Late Archaic to Early Woodland cultural context is indicated.

Example L appears to belong in the Wade Cluster of types found in the Upper Duck Valley (Faulkner and McCollough 1973:149). A Late Archaic to Early Woodland context is suggested.

Example M closely resembles the Category 28 type which was recovered from the Icehouse Bottom site in the Lower Little Tennessee River Valley (Chapman 1977:46). A context somewhat later than Early Archaic is suggested.

Example N resembles the Kays type (Kneberg 1956), but the blade is much longer, closer to the Genesee points of New York (Ritchie 1961), and the stem is slightly tapered on one side. Usage and resharpening on one edge suggests a knife. If the point is of comparable antiquity with either the Kays or Genesee types, a Late Archaic association is suggested. A morphologically similar type of point is the Big Slough of Limestone County Alabama (Cambon and Hulse 1975:18), except Example N has a much thicker blade.

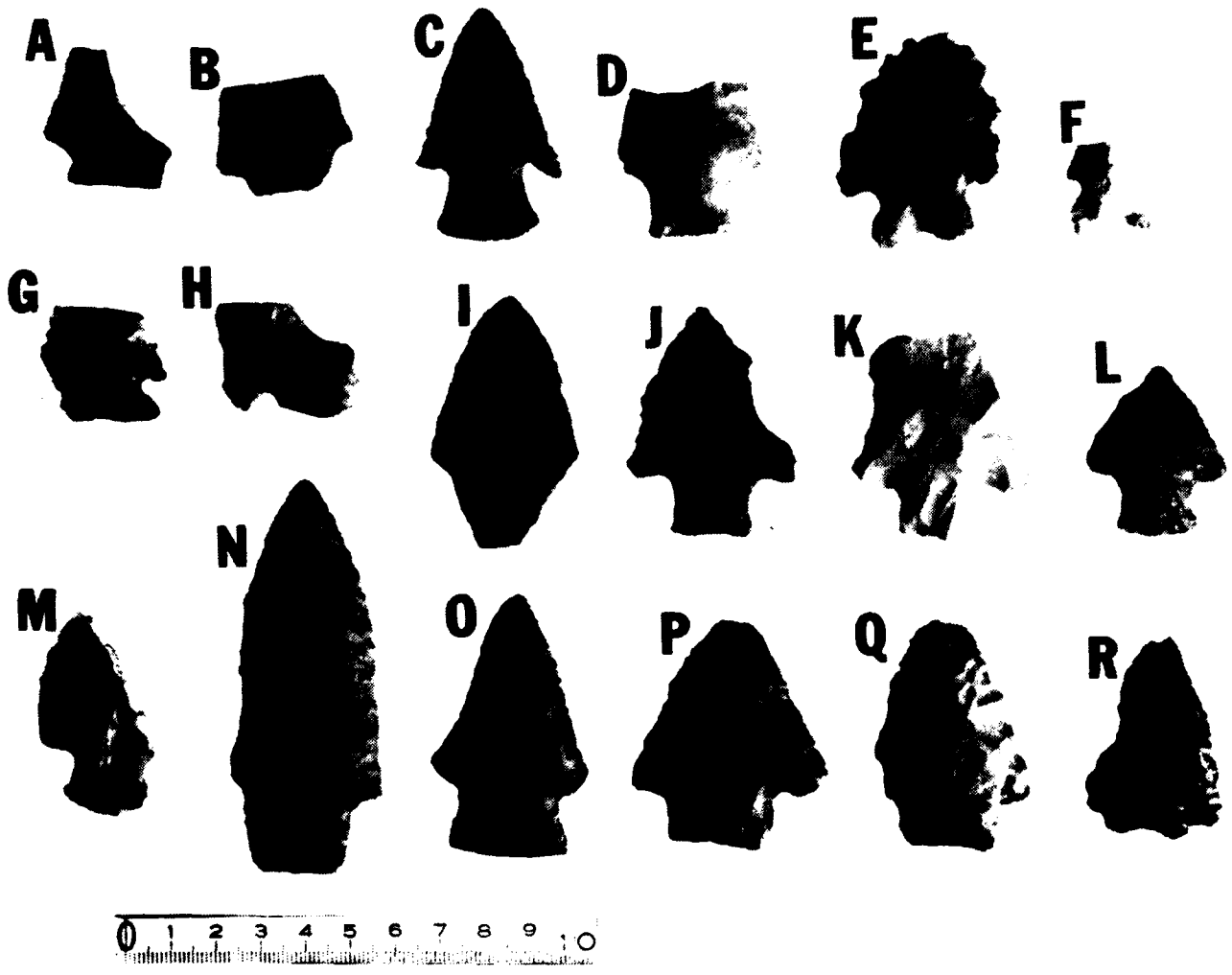
Example O closely resembles the type description for Type 82 (Faulkner and McCollough 1973:110), except the stem is much longer. It is possibly a variant of this type. In workmanship and general appearance, the point appears to be a Late Archaic type. The point is somewhat similar to the Bakers Creek type found in a Woodland context in northern Alabama (DeJarnette, Kurjack, and Cacmbron 1962:47) in that its measurable physical characteristics fit the type as described by Cambron and Hulse (1975:8); however, the point

PHOTOGRAPH 22. PROJECTILE POINTS, 22Ts735, ZONE 3, 734, 506.

A-D 22Ts735, ZONE 3

E-H 22Ts734

I-R 22Ts506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does not resemble Type 61 which Faulkner and McCollough associate with Bakers Creek (1973:99-100). The point is probably a Late Archaic to Early Woodland type.

Example P and Q are possible variants of the Cotaco Creek type. The width of the stem exceeds the limitations proposed by Cambron and Hulse (1975: 33) for this type, but in other features the point is quite similar. Both examples are crudely executed and poorly tipped with minimal edge retouch. If the points are Cotaco Creek variants, a Late Archaic to Early Woodland cultural context is indicated.

Example R is an unknown type. An apparent attempt to bevel the short, wide incurvate stem base suggests an Archaic cultural association. The point is badly fragmented on the lateral one-fourth of the stem and the entire lateral half of the blade.

Photograph 23, Examples A through S.

Example A is very similar to the Bakers Creek type found in a Woodland context at the Stanfield-Worley Bluff Shelter in northern Alabama (DeJarnette, Kurjack, and Cambron 1962:47) and to Faulkner and McCollough's Type 61 found in the Upper Duck Valley in central Tennessee in a Middle Woodland context (1973:99-100).

Examples B and C are crude Adena-like points similar to the types in the Rounded Base Cluster of Faulkner and McCollough (1973:150) in central Tennessee. A Late Archaic to Early Woodland context is suggested.

Examples D and E are large crude straight-stemmed points which were probably used as knives. They closely resemble Type 109 which was found in a probable Late Archaic context in the Upper Duck Valley of central Tennessee (Faulkner and McCollough 1973:125).

Example F is similar to both the Hamilton and Madison points as well as other Late Woodland to Early Mississippian point types. It is no doubt a comparatively recent artifact.

Example G closely resembles the Morrow Mountain I type of the Eva site in western Tennessee (Lewis and Lewis 1961:37) and the Carolina Piedmont (Coe 1964:37), and is similar to points in the Eva-Morrow Mountain Cluster defined by Faulkner and McCollough (1973:153) for the Upper Duck Valley in central Tennessee. A Middle to Late Archaic cultural context is suggested.

Examples H, I and J are all strongly suggestive of Faulkner and McCollough's Type 98, however Example J is also similar to Type 101. A Late Archaic to Early Woodland association is suggested by the authors for both types in the Upper Duck Valley in central Tennessee (Faulkner and McCollough 1973:118-119, 120-121).

Examples K and L closely resemble the undifferentiated straight stem type found in highest frequency of occurrence in the Big Sandy component at the Eva site in western Tennessee. A Late Archaic association is suggested (Lewis and Lewis 1961:33-34).

Example M is unknown, but it resembles points in the Eva-Morrow Mountain Cluster in the Upper Duck Valley in central Tennessee (Faulkner and McCollough 1973:153-154), and bears strong resemblance to some of the specimens typed Morrow Mountain I from the Eva site in western Tennessee (for example see Lewis and Lewis 1961:Plate 9i, p. 41). A Middle to Late Archaic association is suggested.

Example N is unknown but resembles Faulkner and McCollough's Type 47 (1973:91-92). It is undoubtedly a Woodland or Mississippian Period artifact.

Example O exhibits a production-error break in the distal one-third of the blade. It could be a manufacturing intermediary or a finished tool broken during maintenance. It is almost identical to Type 51, a Woodland artifact in the Upper Duck Valley in central Tennessee (Faulkner and McCollough 1973:91-92).

Example P is associated with the Lanceolate Expanded Stem Cluster which Faulkner and McCollough suggest is a Middle to Late Woodland cluster of types in the Upper Duck Valley in central Tennessee. This particular example appears to be Type 62 (1973:100).

Examples Q and R are badly-fragmented specimens which have been sorted as Type 84, a catch-all category of a general class of expanded stem types of unknown cultural association. Faulkner and McCollough (1973:111) suggest a Late Archaic to Early Woodland association in the Upper Duck Valley in central Tennessee.

Example S is quite similar to Faulkner and McCollough's Type 101 which the authors indicate is a Late Archaic type in the Upper Duck Valley in central Tennessee (1973:120-121). Although the authors associate some of their Type 101 specimens with the Kays type (Kneberg 1956) in western Tennessee, this example does not resemble the Kays type. The markedly incurvate blade does, however, resemble specimens from the Upper Duck Valley sorted as Type 101 (for example see Faulkner and McCollough 1973:264).

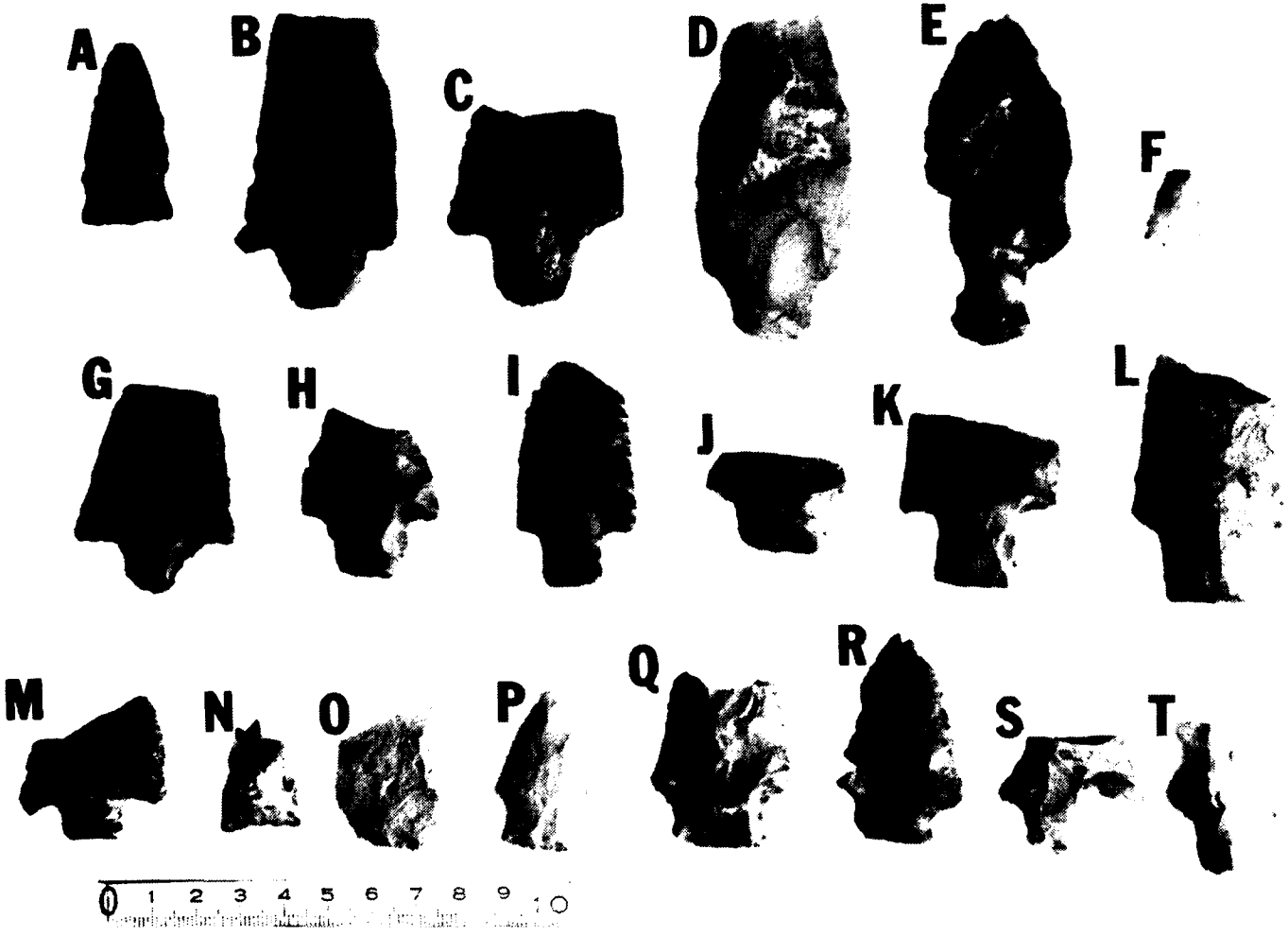
22Ts553, Photograph 23, Example T.

Example T is similar to the undifferentiated narrow stem type found in the Big Sandy component of the Eva site in western Tennessee (Lewis and Lewis 1961:33). Although the type is also represented in the Three Mile component, it was more frequent in the Big Sandy. A Late Archaic association is suggested.

PHOTOGRAPH 23. PROJECTILE POINTS, 22Ts506, 553.

A-S 22Ts506

T 22Ts553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Ceramic Types, Photograph 24.

Example A was sorted as Alexander Incised, which has also been found at both the Jaketown and Bynum Mound sites in Mississippi (Ford, Phillips, and Haag 1955:74-75; Cotter and Corbett 1951:21). The temper is fine sand with well-rounded grains, the overall texture is fine and well-consolidated. The color of this example is mouse gray.

Examples B, C, and D are Baldwin Plain, a type which is found at sites scattered throughout northeast Mississippi (Thorne and Broyles 1968:15). The temper is a gritty type of sand which nevertheless is evenly and homogeneously distributed. The surface is smooth and a dull red-brown. Example B is the remains of a tetrapodal support, also found at the Bynum Mounds (Cotter and Corbett 1951).

Examples E, F, and G are Saltillo Fabric Impressed which is also distributed in northeast Mississippi along the Natchez Trace (Jennings 1941), at the Bynum Mounds (Cotter and Corbett 1951), and the Womach site in north central Mississippi (Koehler 1966). The temper is medium gritty sand and some clay, evenly distributed. The exterior surface is impressed with a textile imprint, the interior is fairly smooth. The surfaces are reddish brown.

Examples H, I, and J are Thomas Plain sherds which have been found at the Pharr Mounds (Bohannon 1972) in northern Alabama, the Boyd Site (Koehler 1966), and the Tallahatchee River drainage (Phillips 1970). They were sorted on the basis of the size of clay lumps in the paste to distinguish it from Tishomingo Plain. The texture was soft, the surfaces gray with a dark gray to black core.

Examples K, L, and M are Tishomingo Cordmarked, a type which is easily sortable on the basis of surface decoration and the contorted texture of the temper. The type has been found along the Natchez Trace in northern Mississippi and Alabama (Jennings 1941), the Bynum Mound (Cotter and Corbett 1951) and the Womach site (Koehler 1966). The color is a dull brown, the cores generally darker.

Example N is Wheeler Plain, a single sherd of which was recovered from 22Ts506. This fiber-tempered pottery type is rather widespread among the northern Alabama shell mounds and represents some of the earliest pottery found in what has been termed an "Archaic Shell Mound" complex (Grif-

fin 1952). This sherd was initially mistyped because of a high content of grit in the temper, and the general overall high quality of the ware relative to other fiber-tempered types.

Examples O and P are Tishomingo Plain, a type difficult to distinguish from Thomas Plain, but generally having a more contorted paste and thicker walls than Thomas Plain. Distribution and color of this type is the same as Tishomingo Cordmarked. Example O has a shallow trowel mark which is emphasized in the photograph, and is not incised or engraved.

PHOTOGRAPH 24. CERAMIC TYPES

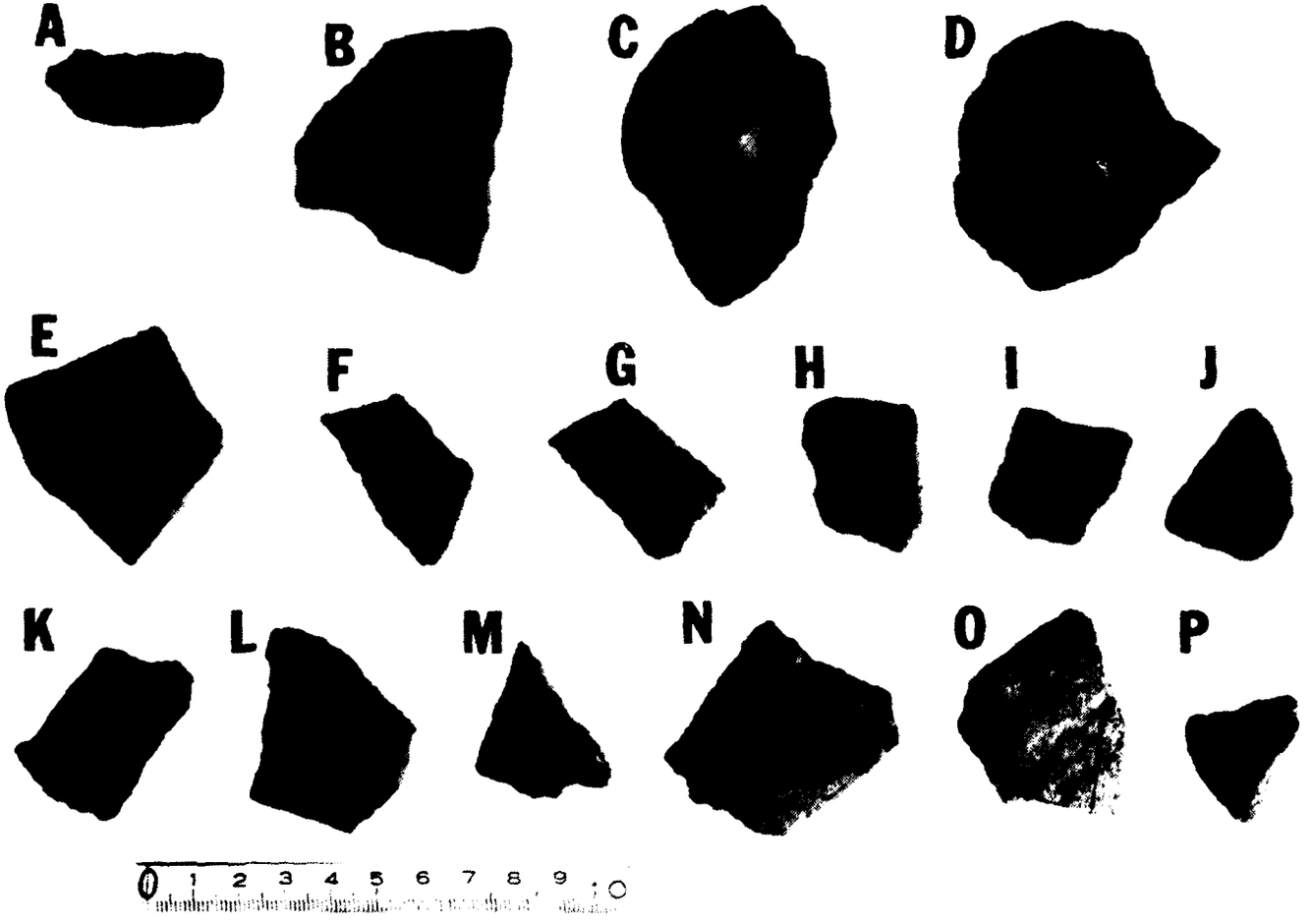
A-G 22Ts506

H-J 22Ts577

K 22Ts777

L-N 22Ts506

O-P 22Ts777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CHAPTER 5

ANALYSIS OF MATERIALS

Introduction

This analysis is primarily an assemblage-level comparison of chipped stone tools recovered from ten of the eleven sites. One of the sites, 22Ts-770, was dropped from the analysis because it yielded only one tool. Two tool types, Biface Scraper and Graver, were also dropped from the comparison because of the lack of sufficient numbers of these tools. Only one of the former and two of the latter were located. The remaining seventeen chipped stone tool types comprise the data base for two comparisons. The sites south of the Tennessee Valley Divide are compared to sites north of the Divide. The sites located on bottom land are compared to sites located on terraces.

A secondary portion of the analysis examines the chronological significance of the pottery distribution among the three sites which yielded classifiable pottery. The three sites, 22Ts777, 22Ts577, and 22Ts506, contained a total of seven ceramic types and one shell-tempered sherd of an unidentifiable type.

Finally, the temporal variation of the eleven sites is based upon the occurrence of known types of projectile points and pottery.

Chipped Stone Tool Data Base. Chipped stone tools and debitage were recovered from each of the eleven sites. Thus, these artifacts appeared to offer the most adequate reference. Hammerstones were found on only seven of the sites, pitted stone on three sites, and ground and polished stone on only one site.

Total site assemblages of chipped stone artifacts were used in the statistical comparisons for two reasons. One, the collection sizes of each site were mostly quite small, as can be seen from the tables in Chapter 3. Secondly, even the two sites which yielded relatively large collections offered only marginal differentiation among the various provenience units as is shown for 22Ts577 in Figure 15, and for 22Ts735 in Figure 11, Chapter 3. Total assemblages were therefore considered to be the more comparable information than were the provenience unit data.

In both statistical comparisons, i.e., in groups North/South of the Tennessee Valley Divide, and the Bottom/Terrace groups, debitage was eliminated from the data base. Table XIV shows the arithmetic means of debitage occurrence in each of the two groups defined by the physiographic variables. A T-test of the debitage means North/South and Bottom/Terrace proved that the differences in occurrence were insignificant at a confidence level of 90%.

TABLE XIV. PERCENT DEBITAGE OF FOUR CHIPPED STONE ARTIFACT GROUPS FROM CLOSED PROVENIENCE UNITS.

Group	Debitage
North Divide	93.99 (8 sites)
South Divide	95.58 (3 sites)
Bottom	94.16 (3 sites)
Terrace	94.53 (8 sites)

The initial data base thus consisted of seventeen chipped stone tool forms.

Comparison of Sites North and South of the Tennessee Valley Divide. Table XV shows the arithmetic and Z-Score means for the two groups defined by the Tennessee Valley Divide.

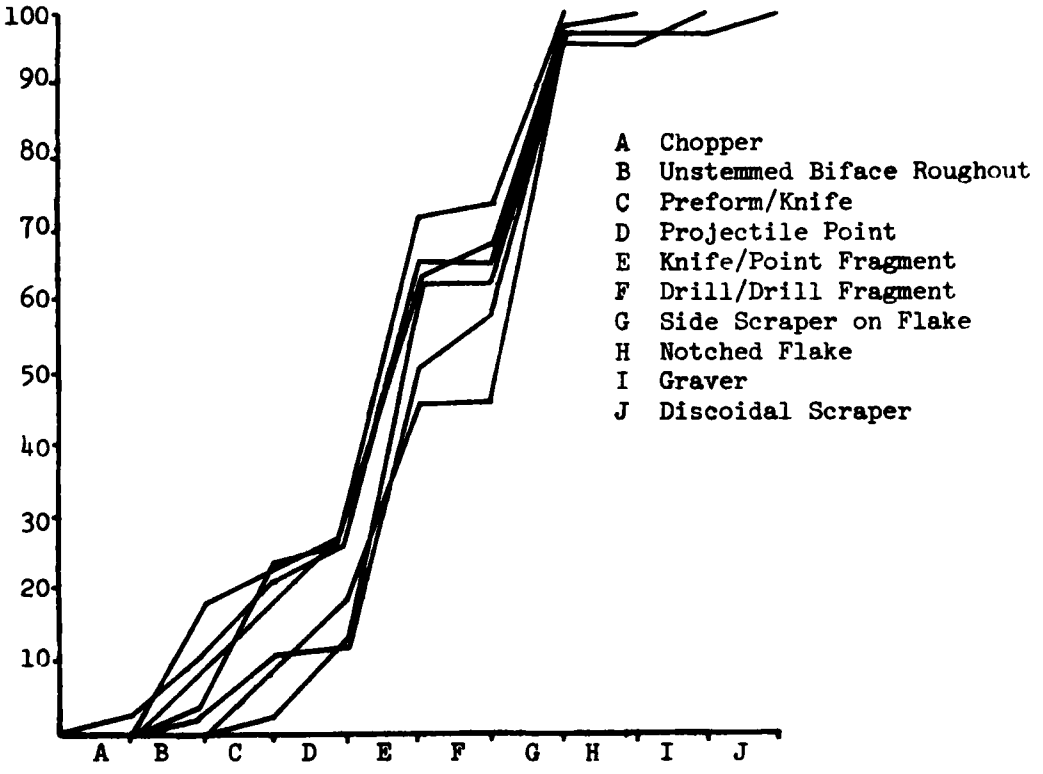

Figure 15. Cumulative Percentages of Chipped Stone Tools from Closed Proveniences, 22Ts577, Squares Yielding Twenty or More Tools.

TABLE XV. ARITHMETIC AND Z-SCORE MEANS OF CHIPPED STONE TOOL TYPES NORTH/SOUTH OF THE TENNESSEE VALLEY DIVIDE.

VARIABLE	NORTH RAW	NORTH Z-SCORE	SOUTH RAW	SOUTH Z-SCORE
Chopper	5.1250	- 0.3979	3.5000	- 0.1930
Unstemmed Biface Roughout	37.1250	1.1909	13.0000	0.8657
Preform/Knife	14.0000	0.2690	9.0000	0.6304
Projectile Point	20.5000	0.2170	10.0000	2.0044
Knife/Point Fragment	63.1250	1.9424	12.5000	1.4413
Drill/Drill Fragment	6.6250	- 0.3706	0.0000	- 0.5831
Notched Biface	0.2500	- 0.5515	0.0000	- 0.5831
Unstemmed Uniface Roughout	1.5000	- 0.5264	0.5000	- 0.5273
Uniface Knife/Point Fragment	1.1250	- 0.4642	1.0000	- 0.4716
Side Scraper	50.1250	2.2009	10.5000	1.2184
Side/End Scraper	0.3750	- 0.5449	0.0000	- 0.5831
End Scraper	1.2500	- 0.4240	0.0000	- 0.5831
Denticulate Flake	0.6250	- 0.5350	0.5000	- 0.5273
Notched Flake	2.3750	- 0.4254	2.0000	- 0.3602
Microtool	0.7500	- 0.5408	0.0000	- 0.5831
Graver/Scraper	1.5000	- 0.5094	0.0000	- 0.5831
Discoidal Scraper	1.2500	- 0.5300	0.0000	- 0.5831

A T-test based upon Z-Scores showed no significant difference between the North and South groups, at a 90% confidence level.

Comparison of Sites Located on Bottoms or Terraces. The arithmetic and Z-Score means for the Bottom/Terrace groups are shown in Table XVI.

A T-test showed that the occurrence of the various tool types was not significantly different on bottoms and terraces; however, an examination of the two cases comprising the bottom group indicated that a separate comparison of each case with the terrace group might prove more differentiating. The bottom group was composed of 22Ts769, an obvious bottom site from the standpoint of both the site location and the soil-type, and 22Ts747, which indicated some discrepancy between location and soil-type. The soil specialists Orvedal and Fowlkes (1944:soil survey map accompanying text) had typed the soil in the immediate vicinity of 22Ts747 as Iuka and Cuthbert, and the soil appeared to be Iuka but the site's location on a low knoll which sloped

TABLE XVI. ARITHMETIC AND Z-SCORE MEANS FOR SITES LOCATED ON BOTTOMS OR TERRACES.

VARIABLE	TERRACE RAW	TERRACE Z-SCORE	BOTTOM RAW	BOTTOM Z-SCORE
Chopper	5.8750	- 0.3388	0.5000	- 0.4295
Unstemmed Biface Roughout	39.1250	1.2782	5.0000	0.5166
Preform/Knife	15.2500	0.3098	4.0000	0.4674
Projectile Point	21.3750	0.2283	6.5000	1.9592
Knife/Point Fragment	64.0000	1.8426	9.0000	1.8407
Drill/Drill Fragment	6.6250	- 0.3827	0.0000	- 0.5346
Notched Biface	0.2500	- 0.5636	0.0000	- 0.5346
Unstemmed Uniface Roughout	1.6250	- 0.5246	0.0000	- 0.5346
Uniface Knife/Point Fragment	1.3750	- 0.4485	0.0000	- 0.5346
Side Scraper	51.1250	2.1767	6.5000	1.3151
Side/End Scraper	0.3750	- 0.5571	0.0000	- 0.5346
End Scraper	1.2500	- 0.4362	0.0000	- 0.5346
Denticulate Flake	0.7500	- 0.5332	0.0000	- 0.5346
Notched Flake	2.6250	- 0.4344	1.0000	- 0.3243
Microtool	0.7500	- 0.5530	0.0000	- 0.5346
Grave/Scraper	1.5000	- 0.5216	0.0000	- 0.5346
Discoidal Scraper	1.2500	- 0.5421	0.0000	- 0.5346

to a nearby tributary of Yellow Creek indicated that the site had been out of reach of the Yellow Creek meander pattern for some time at least, and may never have come under its influence.

A comparison of 22Ts747 to the eight terrace sites is shown in Table XVII. The Z-Score means are remarkably similar for 22Ts747 and the terrace sites. A T-test proved that no significant differences existed at a confidence level of 90%.

A comparison of 22Ts769 with the terrace sites is shown in Table XVIII. A T-test of the Z-Score means proved that the tool Projectile Point is significantly higher on the bottom site than on the terrace sites. An examination of Table XVIII also indicates that complementary values exist for the tool Unstemmed Biface Roughout, providing some indication that this tool is somewhat more common on the terraces than on the bottom site.

TABLE XVII. Z-SCORE MEANS FOR 22Ts747 AND 8 TERRACE SITES.

VARIABLE	22Ts747	TERRACE
Chopper	- 0.4205	- 0.3388
Unstemmed Biface Roughout	1.4716	1.2782
Preform/Knife	0.8409	0.3098
Projectile Point	0.6307	0.2283
Knife/Point Fragment	2.5228	1.8426
Drill/Drill Fragment	- 0.6307	- 0.3827
Notched Biface	- 0.6307	- 0.5636
Unstemmed Uniface Roughout	- 0.6307	- 0.5246
Uniface Knife/Point Fragment	- 0.6307	- 0.4485
Side Scraper	1.4716	2.1767
Side/End Scraper	- 0.6307	- 0.5571
End Scraper	- 0.6307	- 0.4362
Denticulate Flake	- 0.6307	- 0.5332
Notched Flake	- 0.2102	- 0.4344
Microtool	- 0.6307	- 0.5530
Graver/Scraper	- 0.6307	- 0.5216
Discoidal Scraper	- 0.6307	- 0.5421

In a comparison of the Z-Score means between 22Ts769 and 22Ts747, the tools Unstemmed Biface Roughout, Preform/Knife, Projectile Point, and Knife/Point Fragment show some suggestive contrast, as is indicated in Table XIX. All of the tools which indicate an early or intermediate stage of the bifacial reduction sequence are found in higher numbers on 22Ts747, while projectile points occur more frequently on the bottom site, 22Ts769.

Statistical Inferences of Chipped Stone Tool Occurrence. It is emphasized that no clear-cut conclusions may be drawn from the statistical analysis. Any existing contrasts are only suggestive, and then only mildly so. It appears that differences between sites located north or south of the Tennessee Valley Divide are insignificant, when the occurrence of seventeen chipped stone tool types is used as the measurement of differences. It also appears that some contrast exists between sites located on bottom or terrace land. The obvious bottom site, 22Ts769, has a significantly higher occurrence of projectile points than the terrace sites 22Ts777, 577, 738, 735, 734, 506, 553, and 554. The terrace sites in turn are higher in the tool categories Unstemmed Biface Roughout and Preform/Knife but not significantly

TABLE XVIII. Z-SCORE MEANS FOR 22Ts769 AND 8 TERRACE SITES.

VARIABLE	22Ts769	TERRACE
Chopper	- 0.4384	- 0.3388
Unstemmed Biface Roughout	- 0.4384	1.2782
Preform/Knife	0.0939	0.3098
Projectile Point	3.2877	0.2283
Knife/Point Fragment	1.1585	1.8426
Drill/Drill Fragment	- 0.4384	- 0.3827
Notched Biface	- 0.4384	- 0.5636
Unstemmed Uniface Roughout	- 0.4384	- 0.5246
Uniface Knife/Point Fragment	- 0.4384	- 0.4485
Side Scraper	1.1585	2.1767
Side/End Scraper	- 0.4384	- 0.5571
End Scraper	- 0.4384	- 0.4362
Denticulate Flake	- 0.4384	- 0.5332
Notched Flake	- 0.4384	- 0.4344
Microtool	- 0.4384	- 0.5530
Graver/Scraper	- 0.4384	- 0.5216
Discoidal/Scraper	- 0.4384	- 0.5421

TABLE XIX. Z-SCORE MEANS FOR 22Ts769 AND 22Ts747, FOUR OF SEVENTEEN VARIABLES.

SELECTED VARIABLES	22Ts769	22Ts747
Unstemmed Biface Roughout	- 0.4384	1.4716
Preform/Knife	0.0939	0.8409
Projectile Point	3.2877	0.6307
Knife/Point Fragment	1.1585	2.5228

so. The site which could be classified as either bottom or terrace, with justification for either classification, 22Ts747, can be contrasted with 22Ts769 by the same differences which exist between that site and the terrace sites, plus a difference in the occurrence of the tool category Knife/Point Fragment. However, the tool category Preform/Knife is somewhat more common on 22Ts747 than on either 22Ts769 or on the terrace sites. It is unfortunate that this tool category was defined as it was because it represents a tool which could be either a manufacturing intermediary and therefore common on lithic tool production sites, or a completed meat-preparation tool, and therefore perhaps common on hunting/killing/butchering sites. It is interesting to note that the tools classified as Projectile Points, sev-

eral suggested a knife form, either by size or by shape. The distribution of these tools occurred as follows:

22Ts777	8% of 13 projectile points
22Ts769	29% of 7 projectile points
22Ts577	4% of 25 projectile points
22Ts506	10% of 28 projectile points

The remaining seven sites produced no projectile points which suggested knife forms. This high percentage of knife forms at the bottom site suggests that the tool fragments classified as Preform/Knife are manufacturing intermediaries at 22Ts747.

It is suggested that of the ten sites included in the bottom/terrace analysis, only 22Ts769 offers sufficient enough contrast to indicate that the site activity might have been different from activities at the remaining nine sites, and that there may be some differences between bottom sites and terrace sites. A summary of the tool occurrence differences is shown below:

TOOL	BOTTOM (22Ts769)	TERRACE (9 sites)
Unstemmed Biface Roughout	Lower	Higher
Preform/Knife	Lower	Higher
Knife/Point Fragment	Lower	Higher
Projectile Point	Higher (significantly)	Lower
Projectile Point-Knife	Higher	Lower

Ceramic Data Base. Pottery was located on four of the eleven sites, but the sherds from 22Ts738 were so badly eroded that assignation to a known type was impossible. Table XX is a compilation of the pottery used in the analysis.

TABLE XX. CERAMIC DATA BASE.

TYPE	22Ts777	22Ts577	22Ts506
Wheeler Plain			1
Alexander Incised			1
Thomas Plain		12	75
Saltillo Fabric Impressed			34
Baldwin Plain	6		4
Tishomingo Plain	9		7
Tishomingo Cordmarked	5	1	64
Unknown Shell Tempered			1

The pottery was placed in the abundance matrix shown in TABLE XXI in preparation for computation of a similarity matrix using Robinson's index of agreement coefficient (Robinson 1951).

TABLE XXI. DATA MATRIX OF EIGHT CERAMIC TYPE PERCENTAGES FROM THREE SITES.

TYPE	22Ts777	22Ts577	22Ts506	TOTAL
Wheeler Plain			100	100
Alexander Incised			100	100
Thomas Plain		13.79	86.21	100
Saltillo Fabric Impressed			100	100
Baldwin Plain	60.00		40.00	100
Tishomingo Plain	56.25		43.75	100
Tishomingo Cordmarked	7.14	1.43	91.43	100
Unknown Shell Tempered			100	100

Ceramic Analysis. Using the published temporal progression of pottery types (Thorne and Broyles 1968), the similarity matrix was first placed in a chronological order; next, the matrix was re-ordered into the optimal seriation using the criterion of descending values in rows and columns moving away from the principal diagonal. Tables XXII and XXIII show a comparison of the respective results.

In an attempt to affect a better chronological agreement, the four pottery types common to more than one site were used in an identical analysis, i.e., first in a forced chronological fit and secondly in the best fit. Table XXIV shows the results.

Statistical Conclusions. If there had been any chronological patterning in the inter-site distribution of the ceramic types, then there should have been an agreement between the optimal seriation and the expected temporal ordering. It appears that pottery was not found in sufficient quantities to establish a data base beyond an occurrence matrix. The occurrence matrix was used for chronological indicators, but these indications did not modify the temporal differences suggested by the projectile points.

Temporal Differences Among the Sites. The cultural contexts suggested by the morphology of the various projectile points collected in the project are shown in Table XXV. These contexts were not altered by the pottery collection, therefore only projectile points were used as indicators of temporal differences and site utilization intensities. Site 22Ts554 was excluded because of lack of projectile points. Figure 16 represents the intensity of site utilization, as reflected in the number of cultural contexts of projectile points. The Early, Middle, and Late Archaic periods were considered to be 3,000 years, 2,000 years, and 2,500 years, respectively, while the three Woodland periods and the Mississippian period were considered to be

TABLE XXII. ROBINSON'S INDEX OF AGREEMENT BY POTTERY TYPES OF KNOWN CHRONOLOGICAL PLACEMENT.

	Wheeler Plain	Alexander Incised	Thomas Plain	Saltillo Fabric Impressed	Baldwin Plain	Tishomingo Plain	Tishomingo Cordmarked	Unknown Shell Tempered
Wheeler Plain	200.00	200.00	172.41	200.00	80.00	87.50	182.86	200.00
Alexander Incised	200.00	200.00	172.41	200.00	80.00	87.50	182.86	200.00
Thomas Plain	172.41	172.41	200.00	172.41	80.00	87.50	175.27	172.41
Saltillo Fabric Impressed	200.00	200.00	172.41	200.00	80.00	87.50	182.86	200.00
Baldwin Plain	80.00	80.00	80.00	80.00	200.00	192.50	94.29	80.00
Tishomingo Plain	87.50	87.50	87.50	87.50	192.50	200.00	101.79	87.50
Tishomingo Cordmarked	182.86	182.86	175.27	182.86	94.29	101.79	200.00	182.86
Unknown Shell Tempered	200.00	200.00	172.41	200.00	80.00	87.50	182.86	200.00

TABLE XXIII. POTTERY TYPES SERIATED TO BEST FIT OF ROBINSON'S INDEX OF AGREEMENT.

	Unknown Shell Tempered	Saltillo Fabric Impressed	Alexander Incised	Wheeler Plain	Tishomingo Cordmarked	Thomas Plain	Tishomingo Plain	Baldwin Plain
Unknown Shell Tempered	200.00	200.00	200.00	200.00	182.86	172.41	87.50	80.00
Saltillo Fabric Impressed	200.00	200.00	200.00	200.00	182.86	172.41	87.50	80.00
Alexander Incised	200.00	200.00	200.00	200.00	182.86	172.41	87.50	80.00
Wheeler Plain	200.00	200.00	200.00	200.00	182.86	172.41	87.50	80.00
Tishomingo Cordmarked	182.86	182.86	182.86	182.86	200.00	175.27	101.79	94.29
Thomas Plain	172.41	172.41	172.41	172.41	175.27	200.00	87.50	80.00
Tishomingo Plain	87.50	87.50	87.50	87.50	101.79	87.50	200.00	192.50
Baldwin Plain	80.00	80.00	80.00	80.00	94.29	80.00	192.50	200.00

TABLE XXIV. FOUR SELECTED POTTERY TYPES SERIATED BY KNOWN CHRONOLOGICAL PLACEMENT AND BY BEST AGREEMENT WITH ROBINSON'S INDEX.

	Thomas Plain	Baldwin Plain	Tishomingo Cordmarked	Tishomingo Plain
Thomas Plain	200.00	80.00	175.27	87.50
Baldwin Plain	80.00	200.00	94.29	192.50
Tishomingo Cordmarked	175.27	94.29	200.00	101.79
Tishomingo Plain	87.50	192.50	101.79	200.00
Thomas Plain	200.00	175.27	87.50	80.00
Tishomingo Cordmarked	175.27	200.00	101.79	94.29
Tishomingo Plain	87.50	101.79	200.00	192.50
Baldwin Plain	80.00	94.29	192.50	200.00

500 years each. The normalization figures of 6, 4, and 5 were used for the Early, Middle, and Late Archaic contexts respectively, while Early, Middle, and Late Woodland, and Mississippian periods were each considered to be equal to 1, following Dickson's lead in this comparison (Dickson 1977). Thus, in Figure 16, a site utilization number of "2" would be represented by 12 projectile points in the Early Archaic, 8 points in the Middle Archaic, 10 points in the Late Archaic, and 2 projectile points in each of the four succeeding periods. If the temporal span of a projectile point type lasted through two or more periods, the normalization figures were combined. For example, 18 projectile points which suggested a cultural context of Middle to Late Archaic were divided by normalization numbers 4 plus 5 to give a utilization number of "2".

The immediate noticeable contrasts in Figure 16 are differences of temporal utilization of 22Ts769, 747, and the terrace sites 22Ts735, 738, 577, and 506. The fact that 22Ts769 and 747 appear contemporaneous by cultural context, yet show differences with regard to chipped stone tool types lends further support to the inclusion of 22Ts747 with the terrace group of sites.

Still another contrast is that of the temporal utilization of 22Ts734. Further analysis of this contrast was performed by means of a comparison of Z-Scores between this site and the remainder of the terrace sites. A T-test proved that the tool types Side Scraper and End Scraper occurred significantly higher on 22Ts734 at a confidence level of 90%. However, an Early Woodland projectile point found on the surface of 22Ts734 during the areal survey (Thorne 1976:135), indicates that the temporal utilization of the site had not been confined to the Early Archaic, thus no positive conclusions are possible. Neither side scrapers nor end scrapers were significantly more frequent at 22Ts506 or 22Ts777 than at the other terrace sites, and both of these sites yielded projectile points of Early Archaic cultural contexts.

TABLE XXV. ACCUMULATION OF CULTURAL CONCEPTS BY POINT [illegible]

[illegible]	PHOTOGRAPH	EXAMPLE	SAMPLE	SUGGESTED CONTEXT
[illegible]	16	A	1	[illegible]
		B	1	Middle Woodland
		C	1	Middle-Late Woodland
		D-E	2	Late Archaic
		F	1	Middle-Late Archaic
		G-H	2	Late Archaic
		I	1	Middle-Late Archaic
		J	1	Middle-Late Archaic
		K	1	Late Archaic-Early Woodland
		L	1	Early Archaic
		M	1	Early Archaic
22Ts770	17	A	1	Middle-Late [illegible]
22Ts769		B-C	2	Late Archaic-Early Woodland
		D	1	Late Archaic-Early Woodland
		E-F	2	Woodland
		G	1	Unknown
		H	1	Unknown
22Ts577		I	1	Late Archaic
		J	1	Unknown
		K-L	2	Late Archaic-Early Woodland
		M	1	Middle-Late Woodland
		N-Q	4	Middle-Late Archaic
		R-S	2	Middle-Late Archaic
		T	1	Late Woodland
	18	A	1	Middle-Late Woodland
		B	1	Late Archaic
		C-E	3	Middle-Late Archaic
		F	1	Middle-Late Woodland
		G-H	2	Middle-Late Woodland
22Ts747		I-J	2	Late Archaic
		K	1	Middle-Late Archaic
		L-M	2	Woodland
		N	1	Woodland
22Ts738		O	1	Late Archaic-Early Woodland
		P-R	12	Middle-Late Archaic
	19	A-C	6	Late Archaic
		D	1	Middle Woodland
		E	1	Late Archaic
		F	1	Early Woodland
		G	1	Late Archaic
22Ts735		H-J	9	Late Archaic-Early Woodland
		K-M	6	Late Archaic
		N	1	Middle Archaic
		P-Q	2	Late Archaic-Early Woodland
	20	A	1	Middle Archaic
		B-D	5	Middle-Late Archaic
		E	1	Middle Archaic
		F	1	Middle-Late Archaic
		G	1	Late Archaic
		H-I	2	Late Archaic-Early Woodland
		J-K	2	Late Archaic-Early Woodland
		L	1	Archaic
		M-N	2	Middle Archaic
		O-Q	3	Unknown
	21	A	1	Middle-Late Archaic
		B	1	Middle-Late Archaic
		C	1	Late Archaic-Early Woodland
		D	1	Late Archaic-Early Woodland
		E-F	2	Late Archaic
		G-H	2	Middle-Late Archaic
		I-K	8	Middle-Late Archaic
		L-M	2	Middle Archaic
		N-O	2	Middle-Late Archaic
		P-Q	2	Unknown
		R-T	5	Middle-Late Archaic
		U	1	Middle-Late Archaic
	22	A-B	2	Middle-Late Archaic
		C	1	Late Archaic
		D	1	Late Archaic
22Ts734		E	1	Early Archaic
		F	1	Early-Middle Archaic
		G	1	Early Archaic
		H	1	Early-Middle Archaic
22Ts506		I	1	Late Archaic-Early Woodland
		J-K	2	Late Archaic-Early Woodland
		L	1	Late Archaic-Early Woodland
		M	1	Early Archaic
		N	1	Late Archaic
		O	1	Late Archaic-Early Woodland
		P-Q	2	Late Archaic-Early Woodland
		R	1	Unknown
	23	A	1	Middle Woodland
		B-C	2	Late Archaic-Early Woodland
		D-E	2	Late Archaic
		F	1	Late Woodland-Early Mississippian
		G	1	Middle-Late Archaic
		H-J	3	Late Archaic-Early Woodland
		K-L	2	Late Archaic
		M	1	Middle-Late Archaic
		N	1	Late Woodland-Early Mississippian
		O	1	Woodland
		P	1	Middle-Late Woodland
		Q-R	2	Late Archaic-Early Woodland
		S	1	Late Archaic
22Ts[illegible]3		T	1	Late Archaic

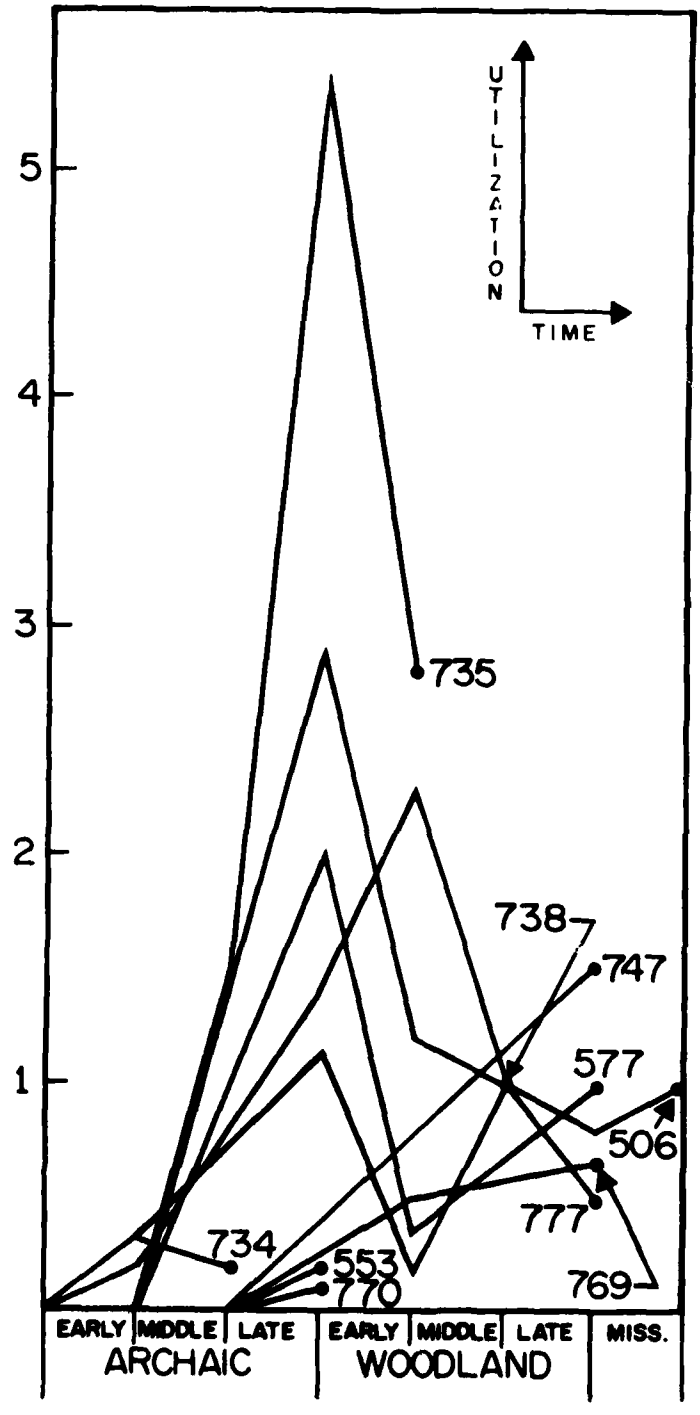

FIGURE 16. TEMPORAL INTENSITY OF SITE UTILIZATION.

Sites 22Ts735, 738, and 577 are nearly identical in the fractions of utilization from the Middle Archaic through the Early Woodland periods, and become dissimilar thereafter. Site utilization ceases at 22Ts735 after the Early Woodland, and decreases at 22Ts738 through the Middle Woodland and stops thereafter. At 22Ts577, site utilization increases from the Early Woodland through the Late Woodland. However, all of these sites show the highest level of utilization during the Late Archaic to Early Woodland periods.

CHAPTER 6

CONCLUSIONS

Within the limitations of the nature of the sample of sites, there appeared to be no significant differences between the group of sites lying north and the group lying south of the Tennessee Valley Divide. The limitation of the sample must be considered, however. The South sample was represented by two bottom sites, 22Ts769, and 770, which yielded a total of fifteen chipped stone tools, and one terrace site, 22Ts777, which yielded 111 of these tools. In terms of tool type diversity, 22Ts769 and 770 were represented by four tool types, while 22Ts777 yielded ten types of chipped stone tools. Collections were adjusted for size by Z-Score transformation, but in terms of the validity of the sample, the resultant Z-Score mean is no more representative for each tool type for sites south of the Divide than is the group comprised by 22Ts769, 770, and 777. Likewise, the comparison of the bottom group of sites to the terrace group presents a similar problem. While a T-test showed no significant differences between the groups when the controversial site 22Ts747 was included in the bottom group, significant differences were apparent when this site was placed in the terrace group. If 22Ts769 and 22Ts770 are considered to be the only bottom sites, the comparison melds well with the bottom/upland comparison of flora and fauna. Economic important animals, and the plants which support them, predominate in the bottoms, and the bottoms do appear to have been the loci of tools associated with hunting. The tools found on the terraces appear to have been associated more with lithic tool manufacture, according to the analysis.

Another factor which must be considered is that the differences in site usage which are apparent from the bottom/terrace comparison are simply differences associated with the time of occupation. However, the similarities of 22Ts769 and 22Ts747 with regard to cultural contexts and the differences with regard to tools, suggest that chronological placement is not a good determinant of site differences in the project area.

The sum of all the excavated sites as representative of areal utilization presents a picture of greatest intensity from the Late Archaic through the Early Woodland periods. Figure 17 is a summary of the individual sites presented in Figure 16. This fits rather well with the generalized concept of a lengthy period of dependency upon game and therefore, chert resources, and subsequent decreased dependency on these resources as human expertise in food production increased. It may be significant that the land in the project area, which is not particularly productive agricultural land today, appears to receive less attention in the Late Woodland than the more fertile bottom land along the major rivers such as the Tennessee River.

Coeval with the project area utilization are lithic tool production sites in the area of the Yellow Creek Nuclear Power Plant. These sites indicate that the inhabitants used Ft. Payne chert almost exclusively (Dr. Jay K. Johnson, personal communication), but the significance of this difference in raw material selection is not known. This problem is one which might be answered by the purposive design of a research plan specifically

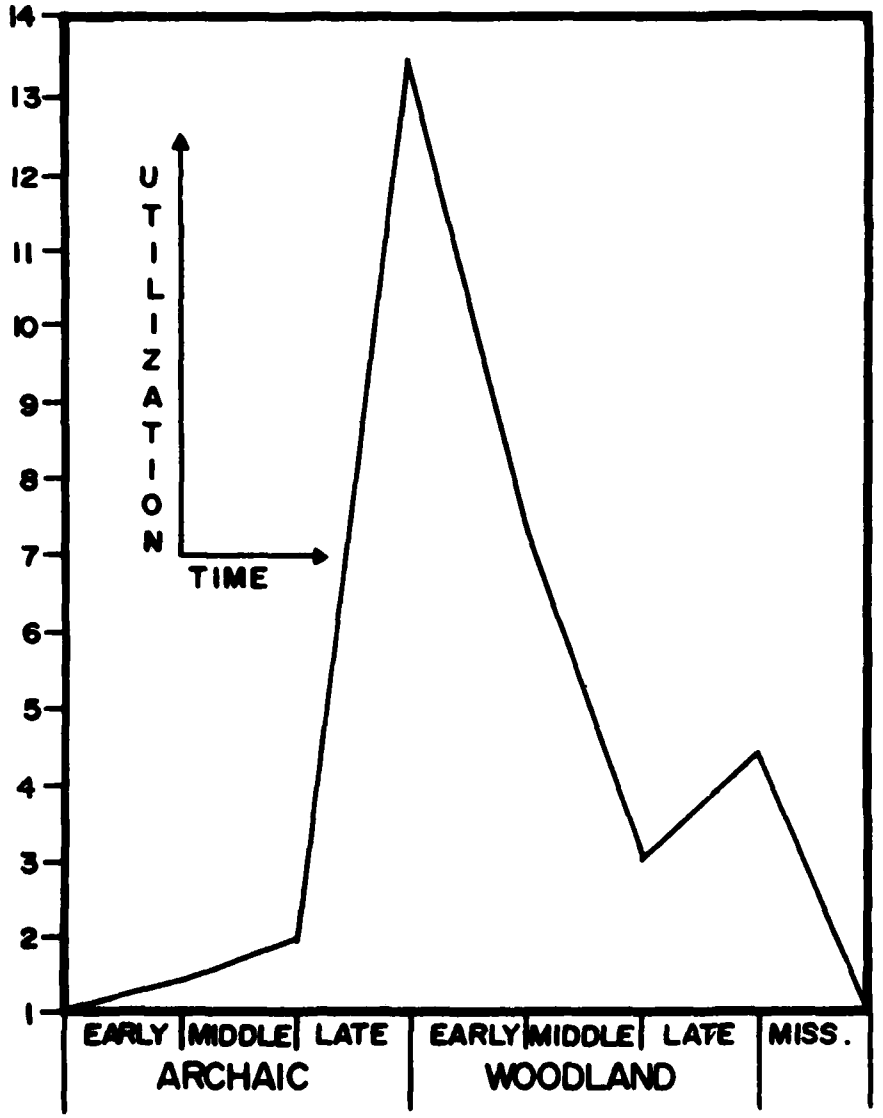

FIGURE 17. TEMPORAL INTENSITY OF AREAL UTILIZATION.

aimed to ask this question of other sites within the Divide Cut Section.

It is highly recommended that sites to be excavated during future archaeological projects in the Yellow Creek drainage system be selected in such a manner that a contrast set of bottom versus terrace sites may be established. Excavations may then be guided in part by the hypothesis only suggested by this report, i.e., that terrace sites functioned primarily as lithic tool production stations and bottom sites were primarily hunting camps. It is also recommended that cultural deposits whose disturbed portion is to be removed be subjected to an extensive sampling program before mechanical stripping is initiated. In this manner, the absence of sub-surface undisturbed cultural materials will be offset.

REFERENCES CITED

Blakeman, Crawford H. Jr., James R. Atkinson, and G. Gerald Berry
1976 Archaeological excavations at the cofferdam site, 22Lo599, Lowndes County, Mississippi. Department of Anthropology, Mississippi State University, Mississippi State.

Bohannon, Charles F.
1972 Excavations at the Pharr mounds, Prentiss and Itawamba Counties, Mississippi and excavations at the Bear Creek site, Tishomingo County, Mississippi. U.S. Department of the Interior, National Park Service, Washinton, D.C.

Bradley, Bruce A.
1975 Lithic reduction sequences: a glossary and discussion. In Lithic Technology, Making and Using Stone Tools, Earl Swanson, Ed. Mouton Publishers, The Hague, Paris.

Cambron, James W. and David C. Hulse
1975 Handbook of Alabama archaeology, point types. Archaeological Research Association of Alabama, Moundville.

Chapman, Jefferson
1977 Archaic period research in the Lower Little Tennessee River Valley - 1975, Icehouse Bottom, Harrison Branch, Thirty-Acre Island, Calloway Island. University of Tennessee Department of Anthropology Report of Investigations No. 18, Knoxville.

Coe, Joffre L.
1964 The formative cultures of the Carolina Piedmont. The American Philosophical Society, Philadelphia.

Coleman, James M.
1975 Vegetation and floristic analysis of the Yellow Creek and Mackey's Creek Drainage Basins, Tishomingo County, Mississippi. Masters thesis, University of Tennessee, Knoxville.

Cotter, John L. and John M. Corbett
1951 Archaeology of the Bynum Mounds, Mississippi. Archaeological Research Series No. 1, U.S. Department of the Interior, National Park Service, Washington, D.C.

DeJarnette, David L, Edward Kurjack, and James W. Cambron
1962 Stanfield-Worley bluff shelter excavations. Journal of Alabama Archaeology 8:1,2. Alabama Archaeological Society, University.

Dickson, D. Bruce
1977 Deduction on the Duck River: a test of some hypotheses about settlement distribution, using surface site survey data from middle Tennessee. Department of Sociology and Anthropology, Texas A & M University, College Station, Ms.

Faulkner, Charles H.
1968 Archaeological investigations in the Tims Ford Reservoir, Tennessee, 1966. Department of Anthropology, Knoxville.

Faulkner, Charles H. and Major C.R. McCollough
1973 Introductory report of the Normandy Reservoir salvage project: environmental setting, typology, and survey. University of Tennesse, Knoxville.

Ford, James A., Philip Phillips, and William G. Haag
1955 The Jaketown site in west-central Mississippi, Anthropological Papers of the American Museum of Natural History 45:1, New York.

Ford, James A., and Clarence H. Webb
1956 Poverty point, a late archaic site in Louisiana, Anthropological Papers of the American Museum of Natural History 26:1, New York.

Good, R.D.
1974 The Geography of the Flowering Plants. Longman Group Ltd., London.

Griffin, James B.
1952 Culture periods in eastern United States archaeology. In Archaeology of the Eastern United States, James B. Griffin, ed. University of Chicago Press, Chicago.

Jennings, Jesse D.
1941 Chickasaw and earlier Indian cultures of northeast Mississippi. Journal of Mississippi History 3:3, Mississippi Historical Society, Jackson.

Kneberg, Madeline
1956 Some important projectile points found in the Tennessee area. Tennessee Archaeologist 13:1, Tennessee Archaeological Society, Knoxville.

Koehler, Thomas H.
1966 Archaeological excavation of the Womach mound. Mississippi Archaeological Association bulletin 1, University.

Lewis, T.M.N. and Madeline Kneberg
1946 Hiwassee Island, University of Tennessee Press, Knoxville.

Lewis, T.M.N. and Madeline Kneberg Lewis
1961 Eva: An Archaic Site, University of Tennessee Press, Knoxville.

Lowe, E.N.
1925 Geology and mineral resources of Mississippi. Mississippi State Geological Survey bulletin 30, Jackson.

1936 Tishomingo state park. Mississippi State Geological Survey bulletin 32, Jackson.

Marcher, Melvin V. and Richard G. Stearns
1962 Tuscaloosa formation in Tennessee. Geological Society of America bulletin 73, Boulder.

McGahey, Samuel O.
1970 Archaeological survey in the Tombigbee River drainage area, May-June 1970. Mississippi Archaeological Survey preliminary report 2, Jackson.

Mellen, Frederic F.
1958 Cretaceous shelf sediments of Mississippi. Mississippi State Geological Survey bullentin 85, University.

Oakley, Carey B. and Eugene M. Futato
1975 Archaeological investigation in the Little Bear Creek reservoir. Archaeology of the Bear Creek Watershed vol. 1, University of Alabama, Tuscaloosa.

O'Hear, John W. and Thomas L. Conn
1977 Archaeological salvage excavations at the L.A. Strickland site (22Ts765), Tishomingo County, Mississippi. Department of Anthropology, Mississippi State University, Mississippi State.

Orvedal, A.C. and Thomas Fowlkes
1944 Soil Survey of Tishomingo County, Mississippi. United States Department of Agriculture, Washington, D.C.

Phillips, Philip
1970 Archaeological Survey in the Lower Yazoo Basin, Mississippi, 1949-1955, part 1. Peabody Museum, Cambridge.

Ritchie, William A.
1961 A typology and nomenclature for New York projectile points. New York State Museum and Science Service bulletin 394, Albany.

Robinson, W.S.
1951 A method for chronologically ordering archaeological deposits. American Antiquity 16 (4).

Sanders, R.
1959 Climates of the States: Mississippi. U.S. Department of Agriculture, Washington, D.C.

Thorne, Robert M.
1976 A cultural resources survey of the divide-cut section, Tennessee-Tombigbee waterway, Tishomingo County, Mississippi: 1975. University of Mississippi, University.

Thorne, Robert M. and Bettye J. Broyles
1968 Handbook of Mississippi pottery types. Southeastern Archaeological Conference bulletin 7.

United States Army Corps of Engineers
1972 Areal Geology, Tennessee-Tombigbee Waterway, Divide-Cut Section. Nashville, District, Nashville.

United States Department of Agriculture, Forest Service
1971 Wildlife Habitat Management Handbook, Southern Region, Atlanta.

Webb, William S. and David L. DeJarnette
1942 An archaeological survey of Pickwick Basin in the adjacent portions of the states of Alabama, Mississippi, and Tennessee. Smithsonian Institution Bureau of American Ethnology bulletin 129, Washington, D.C.

1948 The Little Bear Creek site Ct8. Alabama Museum of Natural History paper 26, University of Alabama, Tuscaloosa.

EXHIBIT A CORRESPONDENCE RECEIVED IN REGARD TO SOIL SAMPLES FOR PALYNOLOGICAL ANALYSIS.

I have completed the analysis of the three samples you submitted from the Robert M. Wright site (22Ts735). Unfortunately, none of the samples contains sufficient fossil pollen to conduct a meaningful analysis. Some of the suspected causes of pollen degradation are outlined in the enclosed article which has been accepted for publication in the Texas Journal of Science.

Each of your three soil samples (L-6, 109, L-11) was processed using laboratory techniques which have been developed over the past several decades for pollen analytical studies. These procedures consisted of several basic steps, (1) Screening the samples through a fifteen micron NITEX screen to remove clay and other detritus smaller than 15 microns. (2) Heavy density fluid separation to remove coarse grain silicates. (3) HF to remove fine grain silicates. (4) 10% KOH to expand residue material and remove humic acids.

After processing was completed, each sample was carefully examined under the microscope. This examination showed that all samples contained at least some fungal spores, yet each sample was almost totally void of other organic material such as pollen. None of the three samples contained more than 2 or 3 individual pollen grains, and what few grains were encountered represented genera in the families Compositae and Gramineae; both fairly common plants in your area. Furthermore, it is possible that even under the best collection conditions, a few airborne pollen and/or spores (such as those mentioned) could have easily contaminated your samples before they were shipped for analysis.

In summary, I believe that the environment of deposition at site 22Ts735 is probably not conducive for pollen preservation. As such, I would suspect that additional attempts to recover fossil pollen from that site would also result in failure. However, this does not necessarily mean that other sites in the same region might also be in this category.

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